PRE-BID CLARIFICATIONS / AMENDMENTS IN RESPONSE TO THE QUERIES RAISED BY PROSPECTIVE BIDDERS IN THE PRE-BID MEETING HELD ON DT.22.12.2018 AT 11.00 A.M. AND SUBSEQUENTLY A TECHNICAL COMMITTEE MEETING ON DT.16.01.2019 AT 11.00 A.M. IN THE CONFERENCE HALL, OSMCL FOR TENDER FOR SUPPLY & INSTALLATION OF LABORATORY EQUIPMENTS AT AHRCC-CUTTACK & VIMSAR-BURLA.
Bid Ref. No. : OSMCL/2018-19/AHRCC Lab Equipments/16

Brief note on the Tender:

- Date & Time of release of bid -14.12.2018, 3 PM.
- Date & time of Pre-bid meeting - 22.12.2018, 11 AM.
- Date & time of Online bid submission Start Date - 26.12.2018, 3 PM.

The tender was published in:

1. The New Indian Express
2. The Indian Express
3. The Dharitri
4. OSMCL Website

- Total No. of prospective bidders/ representatives present in the pre-bid meeting are: **26(Twenty Six)** and **18 Nos.** of query was received through mail/letter.

- The queries raised by the prospective bidders on the above mentioned tender reference were thread barely discussed on dt.16/01/2019 and the following recommendations were made:

Sl. No.	Queries raised by the prospective bidders	Original Technical Specifications	Clarifications /Amendments of specification in response to the queries
9. Blood Gas Analyzer (Catridge Based)			
1	Should be Point of Care single/multiple use cassette based portable Maintenance-free Blood Gas Analyzer with following features Blood Gas Analyzer (Cassette Based)	**Section-VII (Point No-1(Pg. No-64))** Should be Point of Care single use cassette based portable Maintenance-free Blood Gas Analyzer with following features	**No Change**
2	Should have following parameters: pH, pCO2, pO2, Hct, Na+, K+, Ca+, Cl- , Glucose/Lactate along with calculated parameters like HCO3, BE, BEecf, BEact, BB, tCO2, pH, sO2c, O2ct, cHb+, Anion gap. Should have following parameters: pH, pCO2, pO2, tHb, SO2, barometric pressure, Na+, K+, Ca++, Cl- , Glucose, Lactate, Hct,HCO3, BE, BEecf, BEact, BB, tCO2, pH, sO2c, O2ct , cH+ , nCa++,AaDO2, Anion gap.	**Section-VII (Point No-2(Pg. No-65))** Should have following parameters: pH, pCO2, pO2, tHb, SO2, barometric pressure, Na+, K+, Ca++, Cl-, Glucose, BUN(Urea), Lactate, Hct, HCO3, BE, BEecf, BEact, BB, tCO2, HCO3, pH, sO2c, O2ct, cH+, nCa++, AaDO2, Anion gap.	**Amended** Should have following parameters: pH, pCO2, pO2, Hct, Na+, K+, Ca+, Cl- , Glucose/Lactate along with calculated parameters like HCO3, BE, BEecf, BEact, BB, tCO2, pH, sO2c, O2ct, cH+, Anion gap.
3	Should be input parameters: patient temp., FIO2, RQ, patient ID number, patient sex, sample type, etc.	**Section-VII (Point No-3(Pg. No-65))** Should be Input parameters: patient temp., FIO2, RQ, MCHC, patient ID number, patient sex, sample type, etc.	**Amended** Should be input parameters: patient temp., FIO2, RQ, patient ID number, patient sex, sample type, etc.
4	Sample Type: arterial, venous, capillary , aqueous solution	**Section-VII (Point No-6(Pg. No-65))** Sample Type: whole blood, serum, plasma, aqueous solution	**Amended** Sample Type: arterial, venous, capillary , aqueous solution

5	External printer may be incorporated as an option along with inbuilt printer Should have inbuilt and integrated printer	**Section-VII (Point No-7(Pg. No-65))** Should have inbuilt or integrated thermal printer, Color touch screen LCD display, RS 232/LAN interface with built-in barcode scanner	**No Change** **Clarified** that external printer shall not be considered.
6	Machine should be single use disposable cassette based system with single / different configuration of cassettes. This point may be omitted	**Section-VII (Point No-8(Pg. No-65))** Machine should be single use disposable cassette based system with different configuration of cassettes.	**No Change**
7	**Additional points may be added** 1. Should have memory of minimum 5000 tests. 2. Body corrected temp parameter should be available. 3. Cartridges expiry should be minimum 6 months from the date of supply. 4. Auto aspiration facility should be there.		No Change
8	**Additional points may be added** Must have auto aspiration of sample in Blood Gas Machine		No Change
9	The cost should include cost of all consumables required to calibrate on daily, monthly, quarterly or annually for any one or all parameters or instrument. It should not have any hidden cost.	**Section-VII (Pg. No-66)** (N.B-Cost of cartridges for 100 tests per month for 10 years of all parameters must be quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval.)	**Amended** The cost should include cost of all consumables required to calibrate on daily, monthly, quarterly or annually for any one or all parameters or instrument. It should not have any hidden cost.
3. Automatic Electro chemiluminescence Assay (ECL)			
1	It should be chemiluminescence Assay.	Automatic Electrochemiluminescence Assay (ECL).	**Amended** It should be Automatic Chemiluminescence

	It should be Automatic Chemiluminescence Assay		Assay.
2	Should be USFDA or CE approved model.	**Section-VII (Pg. No-58)** Should be USFDA and CE approved model.	No Change
3	Should be bench top / floor stand model. The instrument should be floor model with lockable caster wheels for mobility.	**Section-VII (Point No-2(Pg. No-58))** Should be floor stand model.	**Amended** Should be bench top / floor stand model.
4	It is available as, a disk system / rack system.	**Section-VII (Pg. No-58)** It is available as both, a disk system and a rack system.	**Amended** It is available as either a disk system/rack system.
5	System components: Analytical module including window XP / QNX Linux embedded operated touch screen PC. XP should not be specific	**Section-VII (Pg. No-58)** System components: Analytical module including window xp embedded operated touch screen PC.	**Amended** System components: Analytical module including windows or QNX Linux embedded operated touch screen PC.
6	Sample volume: 10 to 150 µl per test, depending on assay protocol Sample volume: 5 to 250 µl per test, depending on assay protocol Sample volume: 10 to 200 µl per test, depending on assay protocol Sample volume: 10 to 100 µl per test, depending on assay protocol	**Section-VII (Pg. No-59)** Sample volume: 10 to 50 µl per test, depending on assay protocol	**Amended** Sample volume: 10 to 250 µl per test, depending on assay protocol

7	The instrument should be capable of loading minimum of 60 samples at a time with customized on-site priority positions and continuous access for reagent and sample should be possible during run. The instrument should be capable of loading minimum of 65-75 samples at a time with customized on-site priority positions and continuous access for reagent and sample should be possible during run.	**Section-VII (Pg. No-59)** The instrument should be capable of loading minimum of 65 samples at a time with customized on-site priority positions and continuous access for reagent and sample should be possible during run.	**Amended** The instrument should be capable of loading minimum of 60 or more samples at a time with customized on-site priority positions and continuous access for reagent and sample should be possible during run.
8	Robotic arm word should be removed. The instrument should be able to reduce turnaround time with the facility of continuous loading samples at any time with user defined stat position.	**Section-VII (Pg. No-59)** The instrument should be able to reduce turnaround time with front end sample loading with robotic arm and ability to have user defined stat position.	**Amended** The instrument should be able to reduce turnaround time with front end sample loading or continous loading samples at any time with user defined stat position.
9	Any Rack can be used for SAMPLE, STAT, CONTROL or Calibrator purpose. So no restriction. Test types: Routine, STAT, Control, Calibrator and STAT handling available	**Section-VII (Pg. No-59)** Rack types: Routine, STAT, Control, Calibrator. STAT handling: Any unoccupied position on the sample disk, dedicated STAT port on rack feeder.	**Amended** Any Rack can be used for SAMPLE, STAT, CONTROL or Calibrator purpose and STAT handling feature should be available
10	2ml and 3ml cups, 0.5 ml micro cups are allowed cup on top of 16X75/100mm tube possible. No change to the original tender specification The sample carrier should be capable of taking different types of tubes for collection of blood and instrument should be capable of automatically sampling from different types of tubes.	**Section-VII (Pg. No-59)** Sample container types: Primary tubes : 5-10 ml;16x100,16x75,13x100,13x75 mm Sample cup: 2, 5 ml Micro cup: not allowed Cups on tube: Cup on top of a 16 x75/100 mm tube Minimum sample volume: Primary tubes: 600 µl (13mm tube), 1,000 µl (16 mm tube) Sample cup: 200 µl (standard cup on tube) 150 µl with special setting	**Amended** Sample container types: Primary tubes : 5-10 ml;16x100,16x75,13x100,13x75 mm Sample cup: 2, 5 ml Minimum sample volume: Primary tubes: 600 µl (13mm tube), 1,000 µl (16 mm tube) Sample cup: 200 µl (standard cup on tube)
11	Test methods : Pre-defined assay protocols (sandwich, competitive / titration) Test methods : Pre-defined assay protocols (sandwich, competitive)	**Section-VII (Pg. No-59)** Test methods : Pre-defined assay protocols (sandwich, competitive, titration)	No Change

12	Number of channels: 20 channels /reagent slots for up to 18 or more different assays. Number of channels: up to 24 reagent positions with maximum of 24 different parameters to be run at a time The instrument should be capable of loading minimum 25-30 test reagent at a time with facility for continuous loading of reagents during run.	**Section-VII (Pg. No-59)** Number of channels: 20 channels /reagent slots for up to 18 different assays.	**Amended** The instrument should be capable of loading minimum 25-30 test reagent at a time with facility for continuous loading of reagents during run.
13	Calibration methods : "Upon QC failure" triggered 3-point calibration per lot Minimum 28 days calibration stability Calibration could be 2 point and 6 point depending on parameters	**Section-VII (Pg. No-59)** Calibration methods : "Upon QC failure" triggered 2-point calibration per lot QC methods: Individual QC + cumulative QC Preventive QC after calibration	No Change
14	Test throughput: minimum 160 tests/hr. Test throughput: up to 100 tests/hr or more. Test throughput: up to 100-150 tests/hr. Test throughput: should be more than170 tests/hr. Test throughput: Up to 90 tests/hr.	**Section-VII (Pg. No-59)** Test throughput: Up to 90 tests/hr.	**Amended** Test throughput: Up to 100 tests/hr or more.
15	On board control unit: PC with Pentium III Processor with coloured 15/19 inch Flat touch screen monitor. System interfaces RS 232 serial interface, bi-directional Standard PC ports (USB, Ethernet, serial etc) for other communication devices. Processor should not be mentioned. It should be with the latest processor.	**Section-VII (Pg. No-59)** On board control unit: PC with Pentium III Processor with coloured 15 SVGA touch screen monitor System interfaces RS 232 serial interface, bi-directional Standard PC ports (USB, Ethernet, serial etc) for other communication devices.	**Amended** On board control unit: PC with latest processor with touch screen facility. System interfaces RS 232 serial interface, bi-directional Standard PC ports (USB, Ethernet, serial etc) for other communication devices.
16	Sample data base: 5.000 tests for routine, STAT and control results. Sample data base: 50,000- 1,00,000 patient test results.	**Section-VII (Pg. No-59)** Sample data base: 2.000 tests for routine, STAT and control results.	No Change

17	The instrument should have wide test menu capable of doing HIV Ag/Ab 4th generation assay, Hep-retro Assays, Cardiac, Congenital, Metabolic assays and (He4,AFP, CA 125 II, CA15-3, CA 19-9, CEA ProGRP , Free PSA CCC, Metabolic (Active b12 uNGAL, Vitamin D, Anti-CCP, B12, C-Peptide, Cortisol, Ferritin, (Folate, Insulin , Intact pTH) Fertility (DHEAS, Estradiol, FSH, LH, Progesterone, Prolactin, SHBG, Testosterone, Total β-hCG) with avidity as normal assay menu The instrument should have wide test menu capable of doing HIV Ag/Ab 4th generation assay, Hep-retro Assays, Cardiac, Congenital, Metabolic assays and (He4,AFP, CA 125 II, CA15-3, CA 19-9, CEA ProGRP , Free PSA CCC, Metabolic (Active b12 uNGAL, Vitamin D, Anti-CCP, B12, C-Peptide, Cortisol, Ferritin, (Folate, Insulin , Intact pTH) Fertility (DHEAS, Estradiol, FSH, LH, Progesterone, Prolactin, SHBG, Testosterone, Total β-hCG) and optional assays like He4, CEA, C-Peptide, Active b12 Ungal, with avidity other than normal assay menu Other than normal assay menu, the instrument should have wide test menu capable of doing transplant assays, Hepretro Assays, cardiac, congenital, metabolic assays.	**<u>Section-VII (Pg. No-59)</u>** The instrument should have wide test menu capable of doing HIV Ag/Ab 4th generation assay, Hep-retro Assays, Cardiac, Congenital, Metabolic assays and (He4,AFP, CA 125 II, CA15-3, CA 19-9, CEA ProGRP , Free PSA CCC, Metabolic (Active b12 uNGAL, Vitamin D, Anti-CCP, B12, C-Peptide, Cortisol, Ferritin, (Folate, Insulin , Intact pTH) Fertility (DHEAS, Estradiol, FSH, LH, Progesterone, Prolactin, SHBG, Testosterone, Total β-hCG) with avidity other than normal assay menu.	**<u>Amended</u>** The instrument should have wide test menu other than normal assay menu, capable of doing transplant assays, Hepretro Assays, cardiac, congenital, metabolic assays, fertility assays and all tumour markers.
	The instrument should have wide test menu capable of doing HIV Ag/Ab 4th generation assay, Hep-retro Assays, Cardiac, Congenital, Metabolic assays and (AFP, CA 125 II, CA15-3, CA 19-9, CEA , Free PSA CCC, Metabolic (Active b12, Vitamin D, Anti-CCP, B12, C-Peptide, Cortisol, Ferritin, (Folate, Insulin , Intact pTH) Fertility (DHEAS, Estradiol, FSH, LH, Progesterone, Prolactin, SHBG, Testosterone, Total β-hCG) with avidity other than normal assay menu		

18	Programmable parameters: Up to 60 assays definable via 2D-barcode (programmes by loading). It should be deleted.	**Section-VII (Pg. No-59)** Programmable parameters: Max 60 assays definable via 2D-barcode (programmes by loading).	**Amended** This point is deleted.
19	Load/unload capacity: 60 samples Load/unload capacity: 30 samples (disk). 65 samples on 15 racks The instrument should be capable of loading minimum 25-30 test reagent at a time with facility for continuous loading of reagents during run.	**Section-VII (Pg. No-59)** Sample input/output: Load/unload capacity: 30 samples (disk). 65 samples on 15 racks	**Amended** Load/unload capacity: up to 60 samples
20	Specific spec for single company. Rack: RD standard 10 position rack Rack Facility should be there.	**Section-VII (Pg. No-59)** Rack: RD standard 5 position rack	**Amended** Rack Facility should be there.
21	Water Consumption : Approx. 5 L for 350 tests Non water requiring analyzers will be preferred Waste container volume should not be mentioned and Water requirements should not be mentioned.	**Section-VII (Pg. No-59)** Water / Waste requirement: Water container: 3 Litres Water requirements: 10 µs/cm or 0.1 mega ohm, bacteria-free. Water Consumption: Approx. 3L for 250 tests, Approx. 12ml/cycle	**Amended** Should have low water usage and one distillation plant of required capacity should be provided by bidder.
22	Define which parameter kit required	**Section-VII (Pg. No-60)** Initially all the reagents, consumables, calibrators & controls etc to be supplied along with the machine for running of 1000 Nos. of sample.	**Clarified** Initially all the reagents, consumables, calibrators & controls etc to be supplied along with the machine for running of 1000 Nos. of sample **for testing of parameters such as CA 125, AFP, β-hCG and CEA.**
23	Please provide the monthly actual workload of the lab parameters wise. Calculate the ten years value for evaluation	**Section-VII (Pg. No-60)** Cost of all individual reagent/cleaning solution/rinsing solution required for measurement of all the parameters for 100 nos. of test per month must be	**Clarified** Cost of all individual reagent/cleaning solution/rinsing solution required for measurement for **100 nos. of test per month for all tumor**

		quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval .In case of individual pack system, cost of each required pack must be furnished.	**markers** must be quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval .In case of individual pack system, cost of each required pack must be furnished.
17. Automatic Biochemical Analyzer			
1	Should be USFDA Or CE as per IVD approved system. Should be USFDA and CE as per IVD approved system for both instrument & reagent. Should be USFDA and CE as per IVD approved system for both instrument & reagent.	**Section-VII (Point No-1(Pg. No-69))** Should be USFDA and CE as per IVD approved system.	**Amended** Should be USFDA and CE as per IVD approved system for both instrument & reagent.
2	Should have two reagent probes and one sample probe with level detection, collision protection, automatic washing station with integrated mixing & preheated reagent up to 37degC. Should have two reagent probes and two separate samples probe with level detection, collision protection, automatic washing station with integrated mixing & preheated reagent facility should be there up to 37degC should be removed. Should have separate probes for reagent and sample with level detection, collision protection, automatic washing station with integrated mixing & preheated reagent up to 37degC. Sample probe can be 1 with pressure differential technology so 2 probes would not be required for level sensing and sampling.	**Section-VII (Point No-7(Pg. No-70))** Should have two reagent probes and two separate samples probe with level detection, collision protection, automatic washing station with integrated mixing & preheated reagent up to 37degC.	**Amended** Should have two reagent probes and two separate samples probe with level detection, collision protection, automatic washing station with integrated mixing & preheated reagent facility should be there.

3	Automated reagent management with more than 45 refrigerated positions Automated reagent management with more than 40 refrigerated positions	**Section-VII (Point No-11(Pg. No-70))** Automated reagent management with 64 refrigerated positions	**Amended** Automated reagent management with 40 or more refrigerated positions.
4	Required test parameters are d) Electrolytes and Ion Selective Electrodes (ISE) such as Calcium, Chloride, Iron, Magnesium, Phosphorus, Chloride (ISE), Potassium (ISE), Sodium (ISE) Carbon Dioxide (ISE) and Calcium Should be removed. Required test parameters are d) Electrolytes and Ion Selective Electrodes (ISE) such as Chloride (ISE), Potassium (ISE), Sodium (ISE)	**Section-VII (Point No-6(Pg. No-70))** Required test parameters are d) Electrolytes and Ion Selective Electrodes (ISE) such as Calcium, Chloride, Iron, Magnesium, Phosphorus, Carbon Dioxide (ISE), Chloride (ISE), Potassium (ISE), Sodium (ISE)	**Amended** Required test parameters are d) Electrolytes such as Calcium, Chloride, Iron, Magnesium, Phosphorus and Ion Selective Electrodes (ISE) such as Chloride (ISE), Potassium (ISE), Sodium (ISE)
5	Should have sample volume up to 50 µl Sample volume should be from 1 to 30 µl per test programmable in the steps of 0.1µl.	**Section-VII (Point No-12(Pg. No-70))** Sample volume should be from 1 to 50ul per test programmable in the steps of 0.1µl.	**Amended** Sample volume should be up to 30 µl or more per test programmable in the steps of 0.1µl.
6	Should have measurement capability of wavelengths range from 340 - 750 nm with 10 filters (all filters should be installed) Should have measurement capability of wavelengths range from 340 - 700 nm	**Section-VII (Point No-16(Pg. No-70))** Should have measurement capability of wavelengths range from 340 - 800 nm	**Amended** Should have measurement capability of wavelengths range from 340 - 700 nm or more. But optional 1-2 extra positions for filters should be there for future.

7	It should be an open/ close system in terms of programming and reagent usage.	**Section-VII (Point No-4(Pg. No-69))** It should be an open system in terms of programming and reagent usage.	**No Change**
8	Should have minimum throughput of 350 tests/hour or more (photometric) and at least 450 test/hour with ISE. ISE could be 400 tests per hour, as we have ICT technology with the same throughput	**Section-VII (Point No-5(Pg. No-70))** Should have minimum throughput of 350 tests/hour or more (photometric) and at least 500 test/hour with ISE.	**Amended** Should have minimum throughput of 350 tests/hour or more (photometric) and at least 400 test/hour or more with ISE.
9	Capacity refrigerator of below ambient temperature (<12) for reagent storage should be available.	**Section-VII (Point No-8(Pg. No-70))** Capacity refrigerator of 2 -8 degree C for reagent storage should be available	**Amended** Capacity refrigerator of below ambient temperature (<12 degree C) for reagent storage should be available.
10	Should have On Board Laundry System for Cuvettes/ Disposable Cuvettes.	**Section-VII (Point No-9(Pg. No-70))** Should have On Board Laundry System for cuvettes.	**Amended** Should have On Board Laundry System for Cuvettes or Disposable Cuvettes.
11	Light Source: Halogen / Quartz Iodine Light Source: Tungsten	**Section-VII (Point No-18(Pg. No-70))** Light Source: Halogen lamp	**Amended** Light Source: Halogen / Quartz Iodine/ Tungsten
12	LIS should be provided by bidder	**Section-VII (Point No-21(Pg. No-70))** Software should give biochemistry test along with sample Bar code and online reporting.	**Amended** LIS should be provided by bidder.
13	Should have two syringes for reagents and two syringes for samples.	**Section-VII (Point No-14(Pg. No-70))** Should have two separate syringes for reagents and samples.	**Amended** This point is deleted.
14	Should have multiple channel automatic washing system for reaction Cuvette with drying facility for better performance.	**Section-VII (Point No-15(Pg. No-70))** Should have 8 channel automatic washing system for reaction cuvette.	**Amended** Should have multiple channel automatic washing system for reaction cuvette.

<table>
<tr><td>15</td><td>Should have low water usage approx. 1 litre/hour, if instrument require more distilled water than the designated capacity then distillation plant of required capacity should be provided by bidder.</td><td><u>Section-VII (Point No-10(Pg. No-70))</u>
Should have low water usage and one distillation plant of required capacity should be provided by bidder.</td><td>No Change</td></tr>
<tr><td>16</td><td><u>Additional points may be added</u>
Should have capacity of 3 reagent programming facility where any position can be assigned R1, R2, and R3.</td><td></td><td>No Change</td></tr>
<tr><td>17</td><td>Kindly define the kit with tests.</td><td><u>Section-VII (Point No-23(Pg. No-70))</u>
System should also be provided with 16 channel Centrifuge machine, pipettes variable range 2-20µl, 20-100µl, 100-100µl. and System test pack for Glucose, SGPT, SGOT, ALP, Bilirubin Total & Direct, cholesterol, triglyceride, Urea, Creatinine, Albumin, Total Protein, Uric Acid, Calibrator, Control Solutions, Cuvette, Cleaning solution and all other required consumables for 5000 tests investigations.</td><td><u>Clarified</u>
System should also be provided with 16 channel Centrifuge machine, pipettes variable range 2-20µl, 20-100µl, 100-100µl, Calibrator, Control Solutions, Cuvette, Cleaning solution and all other required consumables for following tests,
1. LFT, SGPT, SGOT, ALP, Bilirubin Total & Direct-1000 Nos., 2. Urea-1000 Nos., 3. Creatinine-1000 Nos., 4. Lipid Profile-1000 Nos. and 5. Glucose-1000 Nos.</td></tr>
<tr><td>18</td><td>Clarify the parameters as because the biochemistry parameters are huge around more than 200 parameters & every company has own pack size, hence price will be differ according to pack size and therefore should be not a part of price bid. You have to define any 10 routine parameters and ask bidder to quote price of 200 test of each. For example.
Glucose- 200 test
Urea- 200 test
Creatinine- 200 test

Instrument either should be used as closed system if you are considering the price of consumable and reagent for 10 years and it should be used as a open system and price of only instrument should be taken into consideration.</td><td><u>N.B</u>
1. Cost of all individual reagent/cleaning solution/rinsing solution required for processing for 100 nos. of sample per month must be quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval In case of individual pack system, cost of each required pack must be furnished.</td><td><u>Clarified</u>
<table>
<tr><th>Sl. No.</th><th>Parameter</th><th>Nos. of test per month</th></tr>
<tr><td>1</td><td>Urea</td><td>100</td></tr>
<tr><td>2</td><td>Creatinine</td><td>100</td></tr>
<tr><td>3</td><td>Triglycerides</td><td>100</td></tr>
<tr><td>4</td><td>Cholesterol</td><td>100</td></tr>
<tr><td>5</td><td>LDH</td><td>100</td></tr>
<tr><td>6</td><td>SGPT</td><td>100</td></tr>
<tr><td>7</td><td>SGOT</td><td>100</td></tr>
<tr><td>8</td><td>ALP</td><td>100</td></tr>
<tr><td>9</td><td>Bilirubin Total/Direct</td><td>100</td></tr>
<tr><td>10</td><td>Uric Acid</td><td>100</td></tr>
<tr><td>11</td><td>Total Protein</td><td>100</td></tr>
<tr><td>12</td><td>Albumin</td><td>100</td></tr>
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			<table><tr><td>13</td><td>Amylase</td><td>100</td></tr><tr><td>14</td><td>Lipase</td><td>100</td></tr><tr><td>15</td><td>Calcium</td><td>100</td></tr><tr><td>16</td><td>Magnesium</td><td>100</td></tr><tr><td>17</td><td>Phosphorous</td><td>100</td></tr><tr><td>18</td><td>TLBC Iron</td><td>100</td></tr><tr><td>19</td><td>GGT</td><td>100</td></tr><tr><td>20</td><td>ADA</td><td>100</td></tr><tr><td>21</td><td>HbA1c</td><td>100</td></tr><tr><td>22</td><td>Crp</td><td>100</td></tr><tr><td>23</td><td>Ck-mb</td><td>100</td></tr><tr><td>24</td><td>Ck-NAC</td><td>100</td></tr><tr><td>25</td><td>Micro albumin</td><td>100</td></tr></table> The Cost of all individual reagent/cleaning solution/rinsing solution required for processing of above mentioned parameters must be quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval In case of individual pack system, cost of each required pack must be furnished.
7. Cell Counter Fully Automated Analyzer (5 parts) + Retics			
1	Fully Automated 6 parts differential with Reticulocyte count Hematology Analyzer. Fully Automated Comprehensive Hematology Analysis with 5 parts differential	**<u>Section-VII (Point No-1(Pg. No-62))</u>** Fully Automated Comprehensive Hematology Analysis with 5 parts differential	**<u>Amended</u>** Fully Automated 6 parts differential with Reticulocyte count Hematology Analyzer.

2	The instrument should have 26 parameters reported: WBC,RBC,HGB,HCT,MCV,MCH,MCHC,RDW-SD,RDW-CV , PLT , NEUT%,LYMPH%,MONO%,EOS%,BASO%,NEUT#,LYMPH # , MONO#,EOS#,BASO#,PDW,MPV,PCT,P-LCR,IG % Two Histograms-RBC,PLT and one scattergram. Reticulocyte Parameters: Ret#,Ret%,IRF.LFR,MFR,HFR CBC should have following parameters: WBC, RBC, Platelets, Hb., HCT, MCV, MCH, MCHC, RDW, MPV, PCT, PDW, MPV etc. and # of LYM, MON, NEU, EOS, BAS, *ALY/ATL(# and %), *IG/IMM (# and %), * CBC should have following parameters: WBC, RBC, Platelets, Hb., HCT, MCV, MCH, MCHC, RDW, MPV, PCT, PDW, MPV etc. and # of LYM, MON, NEU, EOS, BAS, *ATL (# and %), *IMM (# and %), * CBC should have following parameters: WBC (Corrected), RBC, Platelets, Hb., HCT, MCV, MCH, MCHC, RDW, MPV, PCT, PDW, MPV etc. and # of LYM, MON, NEU, EOS, BAS, *ATL (# and %) or equivalent parameter, *IMM (# and %) or equivalent parameters *,# & % retics, CHr, Uncorrected WBC*	**<u>Section-VII (Point No-4(Pg. No-62))</u>** CBC should have following parameters: WBC, RBC, Platelets, Hb., HCT, MCV, MCH, MCHC, RDW, MPV, PCT, PDW, MPV etc. and # of LYM, MON, NEU, EOS, BAS, *ATL (# and %), *IMM (# and %), *	**<u>Amended</u>** The instrument should have following parameters reported: WBC,RBC,HGB,HCT,MCV,MCH,MCHC,RDW-SD,RDW-CV , PLT , NEUT% , LYMPH%,MONO%,EOS%,BASO%,NEUT#,LYMPH # , MONO# ,EOS# ,BASO# , PDW,MPV,PCT,P-LCR, IG % Two Histograms-RBC, PLT and one scattergram. Reticulocyte Parameters: Ret#,Ret%,IRF.LFR,MFR,HFR
3	Random access discrete analyzer for: * CBC, * CBC+DIFF, * CBC+DIFF+Reticulocyte Random access discrete analyzer for: * CBC * CBC + Differential Count	**<u>Section-VII (Point No-3(Pg. No-62))</u>** Random access discrete analyzer for: * CBC * CBC + Differential Count * CBC + Reticulocyte * CBC + Reticulocyte and Differential Count. Nucleated RBCs in various combinations.	**<u>Amended</u>** Random access discrete analyzer for: * CBC, * CBC+DIFF, * CBC+DIFF+Reticulocyte

	* CBC + Reticulocyte *CBC + Reticulocyte and Differential Count. Nucleated RBCs in various combinations both in # and %.		
	Random access discrete analyzer for: * CBC + Differential Count * Reticulocyte The point "CBC + Reticulocyte and Differential Count and Nucleated RBCs in various combinations" may be deleted		
	Random access discrete analyzer for: * CBC * CBC + Differential Count * CBC + Reticulocyte *CBC + Reticulocyte and Differential Count. * Only Reticulocyte Nucleated RBCs in various combinations.		
4	Should have florescence Flow Cytometery with 3 dimension method using semi-conductor laser. This point should be deleted because every system has its own technology	**Section-VII (Point No-5(Pg. No-62))** Should perform WBC differential analysis in two channels using multiple technologies of impedance volume, and absorbance Cyto-chemistry and resistivity volume to maximize resolution, specificity and efficiency.	**Amended** Should perform WBC differential analysis in two channels using multiple technologies to maximize resolution, specificity and efficiency.
5	This point should be deleted because every system has its own technology	**Section-VII (Point No-6(Pg. No-62))** Should use a Dual Focused Flow Cell to analyze WBC's for differential count.	**Amended** Should analyze WBC's for differential count.
6	Differential Count should have Lymphocytes, Monocytes, Neutrophils, Eosinophils and Basophils: both in absolute number and percentages. Basophils count should be measured without any extra reagent.	**Section-VII (Point No-7(Pg. No-63))** Differential Count should have Lymphocytes, Monocytes, Neutrophils, Eosinophils and Basophils: both in absolute number and percentages.	**Amended** This point is deleted.

7	Reticulocyte Parameters: Ret#, Ret%, IRF.LFR, MFR, HFR & RET- He. Reticulocyte should have number as well as percentages and immature reticulocyte fraction.	**Section-VII (Point No-8(Pg. No-63))** Reticulocyte should have number as well as percentages and immature reticulocyte fraction.	**Amended** This point is deleted.
8	Please remove the parameters Should flag and enumerate Nucleated Red Blood Cells without additional reagent.	**Section-VII (Point No-10(Pg. No-63))** Should detect and enumerate Nucleated Red Blood Cells without additional reagent.	**Amended** Should have options for Nucleated Red Blood Cells (NRBC) flag.
9	**Principle of Working:** **Platelet count:** Optical Method	**Section-VII (Point No-14(Pg. No-63))** **Principle of Working:** **RBC/ Platelet count:** Impedance / Optical Method/hydrodynamic focussing	No Change
10	Throughput should be 60-70 samples in main mode (CBC / CBC+Diff) Throughput of at least 72 samples/ hour or more in all the five discrete analysis mode. Throughput of at least 80 samples/ hour or more	**Section-VII (Point No-17(Pg. No-63))** Throughput of at least 80 samples/ hour or more in all the five discrete analysis mode.	**Amended** Throughput of at least 60 samples/ hour or more in all the five discrete analysis mode.
11	Should have autoloader: 120 samples at a time with sample mixer function so as to increase walk away time	**Section-VII (Point No-18(Pg. No-63))** Should have autoloader: 50 samples or more at a time with shaker function.	No Change
12	Should have whole blood open vial and closed vial mode. Should have whole blood open vial and closed vial mode, Auto sampler mode	**Section-VII (Point No-19(Pg. No-63))** Should have whole blood open vial and closed vial mode, Capillary mode/ Pre- dilute mode.	**Amended** Should have whole blood open vial and closed vial mode.

13	Linearity not less than 2, 50,000/cumm. Linearity: WBC : should not be less than 3.5 lacs RBC : should not be less than 6.9 millions Platelets: should not be less than 30 lacs Retics: should not be less than 20% HGB: should not be less than 22 g/dL	**<u>Section-VII (Point No-28(Pg. No-63))</u>** Linearity not less than 1, 00000/cumm.	No Change
14	Should have Bar Code reader facility (External or Internal) Should have Bar Code Generation and reader facility (External as well internal)	**<u>Section-VII (Point No-24(Pg. No-63))</u>** Should have Bar Code Generation and reader facility (External as well internal)	No Change
15	**<u>Additional points may be added</u>** The system should have option to give Body Fluids, IPF reports		**<u>Amended</u>** The system should have option to give Body Fluids.
16	**<u>Additional points may be added</u>** System should have USFDA approved. System and reagent should be USFDA approved.		**<u>Amended</u>** System should be USFDA approved.
1. Semi Automatic Rotary Microtome			
1	Requested to change specification from Semi Automatic Rotary Microtome to Fully Automatic Rotary Microtome	Semi Automatic Rotary Microtome	No Change
2	Increments : 0.5 to 2 µm in 0.5 µm increments 2 to 10 µm in 1 µm increments 10 to 20 µm in 2 µm increments 20 to 30 µm in 5 µm increments 30 to 40 µm in 10 µm increments 40 to 100 µm in 20 µm increments	**<u>Section-VII (Point No-3(Pg. No-56))</u>** Increments : 0.5 to 5 µm in 0.5 µm increments 5 to 20 µm in 1 µm increments 20 to 60 µm in 5 µm increments 60 to 100 µm in 10 µm increments	No Change

3	Trimming section thickness setting : 5 - 500 µm	**Section-VII (Point No-4(Pg. No-56))** Trimming section thickness setting : 1 - 600 µm	No Change
4	This point may be deleted.	**Section-VII (Point No-9(Pg. No-56))** Maximum sectioning area w/o retraction: 65 mm/2.56 inches (without specimen orientation)	**Amended** This point is deleted.
5	This point may be deleted.	**Section-VII (Point No-10(Pg. No-56))** Maximum sectioning area with retraction: 60 mm/2.36 inches	**Amended** This point is deleted.
6	Repositioning of knife holder base can be done from North-south	**Section-VII (Pg. No-56)** Repositioning of knife holder base North-south : ± 24 mm / 0.94 inches	**Amended** Repositioning of knife holder base can be done from North-south
7	Specimen retraction in manual which can be turned off.	**Section-VII (Pg. No-56)** Specimen retraction in manual operation: 5-100 µm in 5 µm increments, can be turned off	**Amended** Specimen retraction in manual which can be turned off.
8	Electric coarse feed : 300 µm/s and 800 µm/s or continous	**Section-VII (Pg. No-56)** Electric coarse feed : 300 µm/s and 800 µm/s	**Amended** Electric coarse feed : 300 µm/s and 800 µm/s or continous
9	This point may be deleted.	**Section-VII (Pg. No-56)** Width (with hand wheel) :413 mm / 16.26 inches	**Amended** This point is deleted.
10	This point may be deleted.	**Section-VII (Pg. No-56)** Width (without hand wheel):300 mm / 11.81 inches	**Amended** This point is deleted.
11	This point may be deleted.	**Section-VII (Pg. No-56)** Depth (with waste tray) :618 mm / 24.33 inches	**Amended** This point is deleted.

12	This point may be deleted.	**Section-VII (Pg. No-56)** Depth (without waste tray):520 mm / 20.47 inches	**Amended** This point is deleted.
13	This point may be deleted.	**Section-VII (Pg. No-56)** Working height (knife edge):100 mm / 3.94 inches (measured from the base plate)	**Amended** This point is deleted.
14	This point may be deleted.	**Section-VII (Pg. No-56)** Working height (knife edge):168 mm / 6.61 inches (measured from the stage)	**Amended** This point is deleted.
15	This point may be deleted.	**Section-VII (Pg. No-56)** Width :94 mm / 3.7 inches	**Amended** This point is deleted.
16	This point may be deleted.	**Section-VII (Pg. No-56)** Height :50 mm / 1.97 inches	**Amended** This point is deleted.
17	This point may be deleted.	**Section-VII (Pg. No-56)** Height (in inclined position):81 mm / 3.19 inches	**Amended** This point is deleted.
18	This point may be deleted.	**Section-VII (Pg. No-56)** Depth :164 mm / 6.46 inches	**Amended** This point is deleted.
19	Cost of disposable blade per packet (50 blades/packet) or any other consumable items / disposable / reusable accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.	**Section-VII (Pg. No-56)** **N.B-** Cost of disposable blade per packet (100 blades/packet) or any other consumable items / disposable / reusable accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.	**Amended** Cost of disposable blade per packet (50 blades/packet) or any other consumable items / disposable / reusable accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.
2. Automated Tissue Processer			
1	Requested to change specification from Automated Tissue Processor (Carousal type) to Fully Automatic floor standing tissue processor with Vaccum infiltration.	Automated Tissue Processor	No Change
2	In-built Vacuum / Centrifugation / Spiral agitation function with fume control device.	**Section-VII (Point No-3.6(Pg. No-57))** In-built Vacuum function with fume control device.	**Amended** In-built Vacuum / Centrifugation / Spiral agitation function with fume control device.

3	Aluminium / high grade PE reagent vessels of 1-2 litre capacity each-10 nos.	**Section-VII (Point No-4.4(Pg. No-57))** Aluminium reagent vessels of 0.5-1 litre capacity each-10 nos.	**Amended** Aluminium / high grade PE reagent vessels of 0.5-2 lit capacity each-10 nos.
6. Cryostat Microtome			
1	Clarify the type of Cryostat : Semi-motorized/Motorized		**Clarified** The Cryostat Microtome should be Semi-motorized type.
2	This point may be deleted.	**Section-VII (Pg. No-61)** Dimensions (W x H x D) :570x380x777 mm	**Amended** This point is deleted.
3	This point may be deleted.	**Section-VII (Pg. No-61)** Dimensions Cryo cabinet (W x H x D): 265 x 220 x 400 mm	**Amended** This point is deleted.
4	This point may be deleted.	**Section-VII (Pg. No-61)** Weight (incl. microtome) :50 kg	**Amended** This point is deleted.
5	Relative humidity : max. 90%, non condensing	**Section-VII (Pg. No-62)** Relative humidity : max. 80%, non condensing	**Amended** Relative humidity: max. 90%, non condensing
6	Humidity: < 90%	**Section-VII (Pg. No-62)** Humidity: < 85%	**Amended** Humidity: < 90%
7	Clarify or delete this point	**Section-VII (Pg. No-62)** Motorized sectioning from 0-250mm / section-Convenient specimen holder-smooth fatigue free hand wheel with positive lock at 12 or 6 o'clock position knife holder.	**Amended** This point is deleted.
8	Clarify this point and please specify the backup capacity of the UPS	**Section-VII (Pg. No-62)** Cryostat microtome: Microtome knives of size 100mm to 300mm can be used with spencer blade holder-Reverse wheel for trimming with trimming thickness range10 -400 µm adjustable,increment;10 µm, Increment ± 20%-suitable stabilizer/U.P.S as per requirement for the equipment.	**Amended** This point is deleted.

9	Cost of disposable blade per packet (50 blades/packet) or any other consumable items / disposable / reusable accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.	**N.B-** Cost of disposable blade per packet (100 blades/packet) or any other consumable items / disposable / reusable accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.	**Amended** Cost of disposable blade per packet (50 blades/packet) or any other consumable items / disposable / reusable accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.

8. Fully Automatic IHC Slide Staining System

The overall requirement is modified. The previous technical specification for "Fully Automatic IHC Slide Staining System "is hereby cancelled as per current requirement of user whose new technical specification is mentioned below. However the quantity (1 No.) and other terms & Conditions shall remain same as that of previous item.

Technical Specification

1. The system must be walk away fully Automated Slide Staining System to process slides for Immunohistochemistry, In Situ Hybridization, Immunofluroscence, multi-parameter IHC staining (dual) and should be able to process IHC with IVD approved p16 antibody for the stage detection of cervical cancer & should be able to do US-FDA approved Alk IHC for Non Small Cell Lung Carcinoma and FDA approved DISH for Her2/neu.
2. 1 – 30 slides with independent processing/functionality and temperature control for each position.
3. Automated IHC/ISH platform manages STAT requests with no impact to in-process slides
4. The system must be fully automated to do baking, de-paraffinization, antigen retrieval and staining within the same system.
5. Up to 7 different bulk solutions can be changed "on the fly" without process interruption
6. The System should be open for Primary antibodies.
7. System should have throughput of 30 slides at a time.
8. System should have throughput – 90 slides per 8 hour shift.
9. It should able to do test as well as control on same slide without any extra consumption of reagents.
10. The system must have individual Slide heaters for all the slide position; slide temperature should be individually controlled.
11. The system should have liquid cover slip which will be able to control evaporation and protect tissue integrity on each slide.
12. The reagents and the antibody should get mixed through air whirlpool and no mechanical part should be involved for mixing the reagents and antibodies.
13. Should have a Slide Labelling System. (Bar code reader/ Printer).
14. Should have facility of Individual programming for each slide with any protocol.
15. Only 100 micro liter of Primary antibody must be required to cover the whole slide, irrespective of the size and number of the tissue sections on the slide.
16. The system should be able to recognize Slide Specific Barcode label which would provide automatic programming, patient and case identification.
17. There should not be any pre staining manual steps involved to cover the slides.
18. A single slide run should not consume more reagents per test compared to when run in batches with other slides.
19. The system should be USFDA certified.

20. The installation and training should be done free of cost.
21. The system should have compatible computer and software of latest technology available during installation. The software should be upgradable.
22. The manufacturer of the system should have trained after sales service personnel to be based out of Odisha to address any technical and hardware service related issues.
23. The reagent carousal holds 35 ready to use reagent container.
24. The system or any variants of the system with the same technology should be installed in minimum 60 hospitals/labs across India in both Govt. and Private sectors and at least 1 installation in Odisha.
25. Initially all the reagents & consumables etc to be supplied along with the machine for processing of 1000 Nos. of sample/slide.

N.B-

1.Cost of all individual reagent/cleaning solution/rinsing solution (if any) required for processing for 100 nos. of sample/slide per month must be quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval . In case of individual pack system, cost of each required pack must be furnished.

2. Cost of disposable accessories or reusable accessories as mentioned above or any other consumable items/other accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.

10. Automatic Slide Processing & cell staining system			
1	Able to stain up to 400 slides an hour.	**Section-VII (Point No-3 (Pg. No-65)** Able to stain up to 100 slides an hour.	No Change
2	Easy to use automated platform that combines routine staining, special stain techniques.	**Section-VII (Point No-5 (Pg. No-65)** Easy to use platform that combines routine staining, special stain techniques, and cover slipping. All in one fully integrated system.	No Change
3	Continuous loading of up to 40 slides per run (up to 420 slides an hour).	**Section-VII (Point No-7 (Pg. No-65)** Continuous loading of up to 60 slides per run (up to 500 slides an hour).	No Change
4	Combination of three separate work stations for routine H & E stains, special stain methods	**Section-VII (Point No-8 (Pg. No-65)** Combination of three separate work stations for routine H & E stains, special stain methods and cover slipping.	No Change
5	Up to two drying stations to reduce potential bottlenecks.	**Section-VII (Point No-13 (Pg. No-65)** Two drying stations to reduce potential bottlenecks.	No Change
6	Up to two optional heating stations for special stains	**Section-VII (Point No-14 (Pg. No-66)**	No Change

	like a PAS, Giemsa stain and mucicarmine stain.	Two optional heating stations for special stains like a PAS, Giemsa stain and mucicarmine stain.	
7	Touch / key sensitive colour menu screen.	**Section-VII (Point No-16 (Pg. No-66)** Touch sensitive colour menu screen.	No Change
8	Program up to 2 stations for continuous loading	**Section-VII (Point No-11 (Pg. No-65)** Program up to 3 stations for continuous loading	**Amended** Program up to 2 stations or more for continuous loading
9	Program up to 2 stations for efficient unloading.	**Section-VII (Point No-12 (Pg. No-65)** Program up to five stations for efficient unloading.	**Amended** Program up to 2 stations or more for efficient unloading.
10	Please clarify / delete this point	**Section-VII (Point No-17 (Pg. No-66)** Adhesive backed polymer with Automated cover slipper.	**Amended** This point is deleted.
11	Clarify this point and please specify the backup capacity of the UPS	**Section-VII (Point No-18 (Pg. No-66)** Suitable U.P.S. for power backup in the instrument and the accessories	**Amended** Online U.P.S. of suitable capacity having power back up of 30 minutes or more.
12. Cyto centrifuge			
1	This point may be deleted.	**Section-VII (Point No-5 (Pg. No-67)** Should be equipped with Biological safety cabinet for safety of the operator	**Amended** This point is deleted.
2	This point may be deleted.	**Section-VII (Point No-9 (Pg. No-67)** May have different sizes of disposable chambers.	**Amended** Should have standard sizes of disposable chamber.
3	Speed 200 to 2,000 rpm RPM should be up to 2500 rpm	**Section-VII (Point No-14 (Pg. No-67)** Speed 100 to 4,000rpm	**Amended** Speed 200 to 2,000 rpm
4	Please clarify / delete this point System should process at least 12 samples per cycle with automatic chain-of-custody verification of patient.	**Section-VII (Point No-17 (Pg. No-67)** Process about 80 samples per cycle with automatic chain-of-custody verification of patient sample.	**Amended** This point is deleted.
5	This point may be deleted.	**Section-VII (Point No-16 (Pg. No-67)** The equipment should be an automated slide	**Amended** This point is deleted.

		preparation system that produces uniform thin-layer slides for both gynaecologic and non-gynaecological sample processing which should remove obscuring blood, mucus, debris and also thoroughly mix the sample.	

4. LBC (Liquid Based Cytology) Smear Preparation Instrument

The overall requirement is modified. The previous technical specification for "LBC (Liquid Based Cytology) Smear Preparation Instrument "is hereby cancelled as per current requirement of user whose new technical specification is mentioned below. However the quantity (1 No.) and other terms & Conditions shall remain same as that of previous item.

Technical Specification

1. Automated system for the processing of gyn and non-gyn cytology samples for liquid based cytology.

2. System should be USFDA approved.

3. The System should be capable of preparing thin layered slides within a standardized smear diameter of 20mm from the specimen for easy analysis and interpretation.

4. The sample collection system should be capable of use with various methods of specimen collection system like brushes, spatula and endocervical brushes.

5. Ability to make multiple slides from a single cytology sample which is uniform and reproducible.

6. System should allow residual material to be used for ancillary testing such as HPV, CT/NG, immunocytochemistry, etc.

7. System with the smaller foot print is preferred saving the laboratory space.

8. System should he as significantly more effective than the conventional Pap smear.

9. Should have capability of improved detection of endocervical and endometrial adenocarcimoma.

10. No "pre-processing" of sample should be required for use with the system (centrifuge, pipetting, etc).

11. Number of manual steps must be minimized to reduce opportunities for loss of chain-of- custody.

12. The sample collection vial should be compatible with all USFDA approved HPV tests so that same vial can be used for HPV testing.

13. Cellular material transfer onto the glass slide should be through computer controlled for even smear preparation avoiding manual errors.

14. Should have approximately 25 samples per hour throughput.

15. Should work at operating temperature: 15-32°C / 59-90"F and operating humidity: 20%-90% RH non-condensing.

16. The system should be robust and capable of running at regular electric requirements as in India.

17. **Initially all the reagents & consumables etc to be supplied along with the machine for processing of 1000 Nos. of sample/slide.**

N.B-

1.Cost of all individual reagent/cleaning solution/rinsing solution (if any) required for processing for 100 nos. of sample/slide per month must be quoted in the separate pdf format (Format-A) of the financial bid, which shall be taken into account for price evaluation and shall be approved & valid for 10 years from date of approval . In case of individual pack system, cost of each required pack must be furnished.

2. Cost of disposable accessories or reusable accessories as mentioned above or any other consumable items/other accessories required for functioning of the machine has to be quoted in separate price bid format (Format-B) as price break up of excel BoQ.

5. Multi-head Microscope with Photo Micrographic Attachment			
1	Vertical stage movement 25mm to 36mm per coarse stroke.	**Section-VII (Point No-2 (Pg. No-61)** Focus: Vertical stage movement 25mm per coarse stroke.	**No Change**
2	Built-in-Koehler LED illumination for transmitted light with 60000 hrs life time.	**Section-VII (Point No-3 (Pg. No-61)** Illumination: Built-in-Koehler LED illumination for transmitted Light intensity adjustment centrally located so both hand can be used to increase and decrease light.	**No Change**
3	As the light source is LED then all this filter is not required.	**Section-VII (Point No-4 (Pg. No-61)** Light preset switch for photography. Built-in filters (LBD-IF, ND6, ND25)	**Amended** This point is deleted.
4	Rack less mechanism XY mechanical stage right-handle low position stage, Travelling range(X*Y):76mm*52mm, wire movement, single specimen holder.	**Section-VII (Point No-6 (Pg. No-61)** Stage : Ceramic-Coated coaxial stage with right hand low drive Control	**Amended** Stage : Ceramic-Coated coaxial stage with right hand low drive Control or X – Y movement (mechanical stage)
5	Observation tube : Wide field Trinocular head with field	**Section-VII (Point No-5 (Pg. No-61)**	**Amended**

	no 20 0r 22mm.	Observation tube : Wide field Trinocular head with field no 22mm.	Observation tube: Wide field Trinocular head with field no 20 mm or more.
6	Condenser : universal condenser with 7 position slot	**Section-VII (Point No-7 (Pg. No-61)** Condenser : Swing out condenser (N.A 1.1) for 2X-100X	**Amended** Condenser : Swing out condenser (N.A 0.9 or more) for 10X-100X
7	Teaching Attachment : for 1+4 persons	**Section-VII (Point No-8 (Pg. No-61)** Teaching Attachment : for 1+5 persons	**Amended** Teaching Attachment : for 1+4 persons
8	**Additional points may be added** Please add plan achromatic objective with magnification. (10x,20x,40x,100x oil) Please add plan achromatic objective with magnification. (4x,10x,40x,100x oil) and at least 5/6 mega pixel dedicated CMOS camera with analysis software		**Additional points** Objectives : Plan achromatic Color corrected,4X, 10X, 40X & 100X (Oil) **Camera and Analysis Software:** • Image Sensor: At-least 16 megapixel CCD/CMOS Camera • HD LCD display should be provided • System should come along with capture and measurement software. • Detailed calibration; measurement size, shape, position, height, orientation and intensity etc • Analysis tools including statistics, histograms etc should be provided. • Should be provided with one computer system with latest configuration along with one 1 KVA online UPS.
11. Binocular Microscope (High End)			
1	Optical System - UIS2 (Universal Infinity System) may be changed to Infinity corrected optical system	**Section-VII (Point No-1 (Pg. No-66)** Optical System - UIS2 (Universal Infinity System) optical system	**Amended** Optical System - UIS2 (Universal Infinity System) optical system or Infinity corrected optical system
2	Focusing - Stage height movement (coarse movement stroke: 15 mm) & Fine focus graduation: 2.5 micrometer	**Section-VII (Point No-3 (Pg. No-66)** Focusing - Stage height movement (coarse movement stroke: 20mm) & Fine focus graduation: 2.5 micrometer	**Amended** Focusing - Stage height movement (coarse movement stroke: 15 mm or more) & Fine focus graduation: 2.5 micrometer

3	This point may be deleted.	**Section-VII (Point No-9 (Pg. No-66)** Weight- Approx. 6 kg	**Amended** This point is deleted
4	This point may be deleted.	**Section-VII (Point No-11 (Pg. No-66)** Power Consumption-1.7W	**Amended** This point is deleted
18. Fluorescent Microscope			
1	This point may be deleted.	**Section-VII (Pg. No-71)** Specimen enclosure - The stage should fully be contained in a built-in darkroom.	**Amended** This point is deleted
2	3 position light path divition (80:20,0:100 & 100:0) Trinocular head with 10X22 mm FOV eyepieces dipole displacement (+5 to -5) upper eyes lid (pair) intra with inter papillary distance of at least 50–70 mm adjustable to accommodate observer height.	**Section-VII (Pg. No-71)** 3 position Trinocular head with 10X22 mm FOV eyepieces dipole displacement (+5 to -5) upper eyes lid (pair) intra with inter papillary distance of at least 50–70 mm adjustable to accommodate observer height.	No Change
3	Objective lens switching - Six-mount motorized/manual revolving nosepiece Objective lens switching – standard Six position revolver with DIC slot	**Section-VII (Pg. No-71)** Objective lens switching - Six-mount motorized revolver	**Amended** Objective lens switching – standard Six position revolver with DIC slot
4	Motorized/manual filter turret - Up to 7 filters can be mounted Standard 4 position filter turret	**Section-VII (Pg. No-71)** Motorized filter turret - Up to four filters can be mounted. Automatic position recognition and automatic excitation shutdown during filter replacement	**Amended** Manual filter turret - Up to four filters can be mounted.
5	This point may be deleted.	**Section-VII (Pg. No-71)** Image-formation optical system - Fixed image-forming lens, electronic LC filter insertion/removal mechanism	**Amended** This point is deleted
6	Fluorescence dimming mechanism with ND 25 filter Only Fluorescence dimming mechanism should be present without specifying any percentage	**Section-VII (Pg. No-71)** Fluorescence dimming mechanism - Electronic dimming (0.3%, 5%, 10%, 20%, 40%, 100%)	**Amended** Fluorescence dimming mechanism should be available.
7	This point may be deleted.	**Section-VII (Pg. No-71)**	**Amended**

		Transmitted illumination optical system - Operating distance: 45 mm 1.78", Pop-up mechanism (with automatic lamp shut off function)	This point is deleted
8	For transmitted light built in aperture control is there in the microscope body. Only transmitted illumination mechanism should be present without specifying any percentage	**Section-VII (Pg. No-71)** Transmitted illumination mechanism - Electronic bright field aperture (0%, 20%, 40%, 60%, 80%, 100%)/Phase contrast slit (PhL, Ph1, Ph2)	**Amended** Transmitted illumination mechanism should be available.
9	This point may be deleted.	**Section-VII (Pg. No-71)** Illuminator- Built-in-Koehler illumination for transmitted light 12V100W halogen bulb (pre-centered) with motion sensor detects when an operator leaves and automatically turns off the light for long life of bulbs, light preset switch, built in filters	**Amended** This point is deleted
10	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-71)** Transmitted light source - 3.8 W LED, Average life: 30,000 hours	**Amended** Transmitted light source - LED, Average life: 30,000 hours
11	130 watt mercury light source for fluorescence application with 2000 hrs lifetime.	**Section-VII (Pg. No-72)** Fluorescent incident light source - 80 W metal halide lamp, Average life: 2,000 hours	**Amended** Fluorescent incident light source - 80 W metal halide lamp or 130 watt mercury light source, Average life: 2,000 hours
12	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** Image receiving element - 2/3 inch, 2.83 million pixel monochrome CCD (colorized with LC filter)	**Amended** This point is deleted.
13	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** CCD cooling mechanism - Peltier cooling: 5°C 41°F	**Amended** This point is deleted.
14	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** Output signal, gradations - 14-bit/8-bit monochrome, 8-bit R/G/B	**Amended** Output signal, gradations - 14-bit, R/G/B
15	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** Frame rate - 15 fps for monochrome recording (up to 95 fps with binning), 8.5 fps for color recording	**Amended** This point is deleted.

16	Binning - On-chip binning (2 x 2, 3 x 3, 4 x 4, 8 x 8)	**Section-VII (Pg. No-72)** Binning - On-chip binning (2 x 2, 3 x 3, 4 x 4, 8 x 8, 12 x 12)	**Amended** This point is deleted.
17	Number of pixels in recorded image - 1376 x 1032	**Section-VII (Pg. No-72)** Number of pixels in recorded image - 4,090 x 3,070 max (15 megapixel, high-quality interpolation)	**Amended** This point is deleted.
18	Video capture - 14-bit monochrome: 16 fps for 1,280 x 960 With binning: 29 fps for 960 x 720, 40 fps for 640 x 480, 50 fps for 480 x 360, 75 fps for 240 x 180, 95 fps for 160 x 120	**Section-VII (Pg. No-72)** Video capture - 8-bit monochrome: 16 fps for 1,280 x 960 With binning: 29 fps for 960 x 720, 40 fps for 640 x 480, 50 fps for 480 x 360, 75 fps for 240 x 180, 95 fps for 160 x 120 Color: 8.5 fps for 1,280 x 960	**Amended** This point is deleted.
19	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** Electronic shutter - Auto; 1/7,500 to 60 sec. ,Auto exposure method - User-specified area, average/peak & Gain - 0dB, +6dB, +12dB, +18dB	**Amended** This point is deleted.
20	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** White balance - Push-set, manual Black balance- Push-set, manual	**Amended** White balance & Black balance facility should be there.
21	Observation software- Multi-color image capturing, Quick full-focus, Scale display, Motorized control is require only if microscope is fully motorized.	**Section-VII (Pg. No-72)** Observation software- Multi-Color image capturing, Auto focus, Quick full-focus, Scale display, Motorized lens and filter turrets, Motorized stage control	**Amended** Observation software- Multi-color image capturing, Auto focus, Quick full-focus, Scale display.
22	Additional point as per the user recommendation and discussion in the meeting.	**Section-VII (Pg. No-72)** PC interface - USB2.0	**Amended** PC interface - USB2.0/ HDMI Cable
23	This point may be deleted.	**Section-VII (Pg. No-72)** Dimensions – Microscope unit: 520 (H) x 350 (W) x 495 mm (D) 20.37"(H) x13.40"(W) x 19.55"(D) with panel closed. Controller: 230 (H) x 130 (W) x 405 mm (D) 8.90"(H) x 4.95"(W) x 15.90"(D) Weight – Microscope weight should not be more than 40 kg,	**Amended** This point is deleted.

		Controller: 6 kg Overvoltage category – II Pollution degree – 2	
24	This point may be deleted.	**Section-VII (Pg. No-73)** Digital Camera - Fire wire digital camera with features like: Recent model with 10 mega pixels CCD camera with appropriate lens system mounted. Image analysis: system for capture, morphometry, thresh holding (grey level profiling) and analysis, annotation, etc.	**Amended** This point is deleted
25	Additional point as per the user recommendation and discussion in the meeting.	**Additional points**	**Camera and Analysis Software:** • Image Sensor: High sensitive and high resolution CCD/CMOS Camera with minimum 16 mega pixel or more. • HD LCD display should be provided • Resolution: near to 2500 to 2000 or more. • Detailed calibration; measurement size, shape, position, height, orientation and intensity etc. • Analysis tools including statistics, histograms etc. • Image analysis: system for capture, morphometry, thresh holding (grey level profiling) and analysis, annotation, etc.

N.B:-

1. **The amendments mentioned above are to be treated as amendments in the general term(s) and condition(s) and scope of work of the above tender reference. All other terms conditions remain unchanged.**

2. **Since any text in the price BOQ can't be changed in the e-tender portal, the amendments mentioned above are to be treated as amendments pertaining to price bid/ BOQ (if applicable).**