Amendment-I

Dated: 10.03.2017

Subject: **Amendment of e- Tender for Kalpana Chawla Govt. Medical College, Karnal..**

Ref .IFB : *HSCC/KCGMC/Medical Equipment /2016-17/MC-02 dated 20.02.2017*

A) Extension of bid submission: THE BID NOW STANDS EXTENDED TO 17.03.2017 AT THE SCHEDULED TIME & PLACE

Sl. No.	Description	Revised Schedule as amendment
i.	Dates of sale of tender enquiry documents	**20.02.2016 to 17.03.2017 (upto 14.00 hrs.)**.
ii.	Bid Document can be downloaded from	www.tenderwizard.com/HSCC, www.eprocure.gov.in, www.hsccltd.com
iii.	Closing date & time for receipt of Tender	**17.03.2017**, 14:30 hrs IST
iv.	Time and date of opening of Techno – Commercial tenders	**17.03.2017**, 15:00 hrs IST
v.	Venue of Opening of Techno Commercial Tender	HSCC(I) Ltd, E-6(A), Sector-1, Noida(UP)

B) The revised Technical Specifications & EMD of Following Items Stands Amended& Addition of some items are also incorporated in Pathology Department:

I. Department of Physiology, KCGMC, Karnal

SL NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR (Rs.)
	A. HUMAN AND OTHER EXPERIMENTS		
1	PERIMETER	20	30,000.00
2	GAS ANALYSIS APPRATUS - HALDANES STUDENT TYPE	1	50,000.00
3	GAS ANALYSER AUTOMATIC FOR CO2, O2	1	50,000.00
	B. AMPHIBIAN AND MAMMALIAN EXPERIMENTS		
4	GLASSWARE(BOROSIL MAKE)	Various Qty	25,000.00
5	RECORDING DRUM (KYMOGRAPH)	50	15,000.00
6	POLYGRAPH FOUR CHANNEL	2	75,000.00
	C. EQUIPMENT FOR RESEARCH LAB		
7	EXERCISE TEST SYSTEM	1	60,000.00
8	COGNITIVE FUNCTION TESTING SYSTEM	1	20,000.00
9	DIGITAL EMG, NERVE CONDUCTION & EVOKED POTENTIALS MACHINE	1	40,000.00
10	COMPUTERISED AUTONOMIC FUNCTION TESTING SYSTEM	1	1,40,000.00

II) Department of Pharmacology, KCGMC, Karnal

SL NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR (Rs.)
1	Starling's Long Extension kymographs with time markers	3	15,000.00
2	Spectrophotometer Model Du-Bachman (UV visible range)	1	10,000.00
3	Physiographs - Single channel	40	40,000.00

III) Department of BIOCHEMISTRY, KCGMC, Karnal

SL NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR (Rs.)
1	Colorimeter	6	30,000.00
2	Spectrophotometer	1	10,000.00
3	**Glassware (Sl No.01- 53)**	Various Qty	25,000.00

IV. DEPARTMENT OF PATHOLOGY

SL NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR (Rs.)
1	Semi Motorized Rotary Microtomes	2	28,000.00
2	Freezing Microtome with a stand for CO_2 Cylinder (Cryomicrotome)	1	40,000.00
3	Tissue embedding station	2	32,000.00
4	Automatic Tissue Processor, Histokinette	1	60,000.00
5	Troughs for staining in Bulk	12	2,500.00
6	GROSSING STATION	1	40,000.00
7	AUTOMATED ESR ANALYSER	1	10,000.00
8	SEMI-AUTOMATED BENCH TOP COAGULATION ANALYZER	1	5,000.00
9	CYTO CENTRIFUGE	1	16,000.00
10	Automated High End Blood Cell Counter	1	50,000.00
11	Glassware	Various Qty	25,000.00
12	Fully Automated Cell Counter (Three Part Differential Hematology Analyzer)	1	10,000.00
13	Automated Integrated Urine Chemistry and Sediment Analyzer	1	44,000.00
14	Storage Cabinet for 10000 Slides	10	5,000.00

V. DEPARTMENT OF MICROBIOLOGY

SL NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR (Rs.)
1	LAMINAR AIR FLOW	5	15,000.00
2	ELISA READER AND WASHER	3	24,000.00
3	BIOSAFETY CABINET CLASS A2	3	9,000.00
4	AUTOMATED BACTERIAL INCLUDING MYCOBACTERIAL CULTURING SYSTEM	1	80,000.00
5	AUTOMATED IDENTIFICATION & ANTIBIOTIC SUSCEPTIBILITY SYSTEM	1	48,000.00
6	Glassware	Various Qty	25,000.00

VI. DEPARTMENT OF FORENSIC MEDICINE ITEMS

SL NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR (Rs.)
1	Autopsy saw, with accessories	3	24,000.00
2	Automatic tissue processing machine	1	60,000.00

VII. HOSPITAL ITEMS

SL. NO.	NAME OF EQUIPMENT	QTY (Nos)	EMD INR(Rs.)
	X-Ray View Box		
1	Single Screen	75	62,400.00
2	Double Screen	75	
3	Four Screen	25	

C). AMENDED TECHNICAL SPEFICATIONS

I. DEPARTMENT OF PHYSIOLOGY

7. Technical Specifications for Exercise Test System:

Should be compact and trolley mounted system comprising:-
State of the art computerized exercise test assembly for online measurement of work load, ventilation, anaerobic threshold, oxygen consumprtion, CO2 production, cardiac frequency, respiratory rate, ventilatory equivalent, O2 pulse, respiratory exchange ratio, nutritional assessment, VO2 max, etc.
Cardioscope with rate meter for 3 lead ECG monitoring.
The system should have built in barometric/sample pressure transducers and temperature sensors for monitoring of ambient condition.
Should be capable of doing sampling analysis of gases by breath.
System should have the facility for automatic calibration of analysers with internal quality assurance, volume transducer calibrator with precision calibration syringe with quality control.
The system should include pneumotachograph with very low flow resistance and should not be influenced by humidity (Gold standard).
Minimum range 0-14L/sec. accuracy <3%.
Flow transducer should be connected to analyser by light weight/small dia tubing (dead space <50ml).
Should have fast response CO2 analyser (infra red absorption/spectophotometry) gold standard.
Range 0-10% CO2.Relative accuracy 0.1%.response time <180msec.
Should have fast response O2 analyser (paramagnetic/spectrophotometer/ Galvanometer) gold standard.
Range 0-100% .Relative accuracy 1%.response time <180msec.
Software should support windows 7/8/10 in incorporate customized predicted normal equations. Software should be capable of changing graphic displays during real time testing.
Controlled by Exercise software Programmable cycle ergometer with minimum load range 20-750watts. Loads should be adjustable in steps as well as in ramp fashion (speed independent).
Work load accuracy <2% above 25watts.
Should run on microprocessor controlled electrically breaked principle.
Handle and seat height should be easily adjustable.
Should have user definable/ programmed protocols with manual programmable work load LCD display for RPM and watts.
Should be supplied with software , standard accessories and manual.
System should be supplied with additional accessories for atleast 2years operation.
Intel core 2 duo processor, 4gb Ram, 17" TFT color monitor, 320gb HDD, CDR/w drive , windows 7, HP laserjet printer and UPS.
Unit should be US FDA and European CE Certified.
The above specifications are of generalized nature.

8. Technical Specifications for Cognitive Function Testing System:

<u>Name of the Item</u>: Stimulus Presentation System.

Technical Specification:-

1. **A Computerized system for conducting experiments with wide range of visual and auditory stimuli and the evoked response generated in psychophysiology**
2. **It should be able to simultaneously record electromyogram (EMG), electrooculogram (EOG), electroencephalogram (EEG), electrocardiogram (ECG), Galvanic skin response (GSR), Temperature, reflex time, reaction time, pulse, respiration, and hand grip force in human subjects.**
3. **It should have:**

   Necessary cables and electrodes for recording the above mentioned
   Minimum sampling rate of 20 KHz while using all 16 channels.

- **Ability to acquire bio-potentials simultaneously from 8 channels**
- **Minimum resolution of 16 bits.**
- **Measurement accuracy within 1.5% at all ranges of voltage.**
- **Common mode rejection ratio more than 80dB.**
- **Stimulus presentation software, which should be capable of playing movies, stimulus lists, support for PNG, and TIFF files, Built-in support for RSVP and self-paced reading, Improved support for EEG/ JPEG, GIF ERP, Trial variables, Multiple input devices in the same experiment**
- **User friendly software for recording, analyzing, storing and printing the data.**
- **Interface to stream and sync subject's video & recording of physiological Software that allows user defined gain control, filter settings, facility for event marking and annotation.**
- **The recorded responses including reaction times are saved in text-only file; which can be read by almost all spreadsheet or statistics software.**
- **HRV, ECG, Cardiac Axis, Peak and other automated analysis features.**
- **Wireless/wired four sensor based balance board for body sweat analysis with software.**
- **Easy to use with USB; Universal Marker Interface should have a facility to connect up to four light sensors (marking the onset of visual stimuli), two audio channels (left and right of stereo) and at- least Six TTL inputs for interfacing a wide range of response pad.**
- **Light sensors(White & Black),Response Pad (7-Buttons), Voice Key with serial adaptorand Response Meter**
- **Triggering facility from a distance.**
- **Operability on 220-240 V, 50 Hz power supply.**
- **Two Desktop Computers with latest configuration and printer along with 1 KVA UPS.**
- **High resolution color inkjet printer.**
- **Two hours backup UPS.**
- **Free of cost software up gradation for equipment and computer for five years.**
- **Necessary safety certification required for class I device and necessary international certifications for human use.**
- **Certification of compliance with European and North American safety and EMC standards.**
- **Five years warranty plus 5 years proposal for CMC charges.**

IV. DEPARTMENT OF PATHOLOGY

1. Technical Specifications for Semi Motorized Rotary Microtomes

1) Should have Motorized feeding system and manual sectioning.
2) Microtome should have smooth hand wheel operation.
3) Microtome should have rocking mode function with automatic feeding and retraction.
4) Should have section thickness range 0.5 – 100 µm and trimming range of 1 – 600 µm.
5) Should have step trim function.
6) Should have easy change between trimming and sectioning mode.
7) Should have ON/OFF retraction mode.
8) Should have coarse feed motorised in 2 speeds.
9) Should have Voltage selector.
10) Remaining feed indicator should have visual (LED) and acoustic.
11) Should have Section counter and section thickness totalizer.
12) Specimen orientation should be 8 degree.
13) Should have horizontal specimen feed 30mm or more and vertical specimen stroke of 70mm or more.
14) Should have second hand wheel break, directly on the hand wheel only.
15) Should have inbuilt control panel for display.
16) Should have return to object head home position during trimming.
17) Should have section waste tray integrated in the instrument design.
18) Spare low and high profile blades in dispenser pack of 50 blades: 6 packets each.
19) Integrated removable section waste tray.
20) Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
21) The equipment should be USA-FDA/European- CE approved.

Accessories:

- Disposable blade holder which accommodates both high and low profile blades.
- Spare low and high profile blades in dispenser pack of 50 blades: 6 packets each.

2. Freezing Microtome with a stand for CO_2 Cylinder (Cryomicrotome)

1. Cryostat unit should-be open top, free Standing, mounted on retractable wheels complete with standard accessories.
2. Corrosion proof stainless steel cryo-chamber for easy decontamination / cleaning.
3. Double cooling system for specimen head and cryo-chamber.
4. Quick-freeze station with Peltier cooling system for rapid freezing and storage of Specimen with temperature: ambient to -45^0C by separate compressor.
5. Cryo-chamber temperature: ambient to -35^0 C by separate compressor.
6. Maximum cooling time up to maximum low temperature should be less than 4 hours after start up.
7. CFC-free refrigerants and insulating foams.
8. Programmable automatic defrosting once in 24 hours. Duration of the defrost cycle should be 6 – 15 minutes.
9. All functions via electronic control panel with microprocessor-based touch-key controls. Electronic locking key to avoid any inadvertent changes in program setting should be available.
10. Digital display to time, section thickness & temperature.
11. Proper in built illumination of Cryochamber and specimen head area.
12. Ultraviolet disinfection of Cryochamber and cutting unit for user safety.
13. Should work at 220-240 VAC 50/60HZ.

Specifications of microtome:

14. Corrosion resistant splash proof Retracting Microtome with disposable blade holder for High profile blades and anti-roll plate.
15. Provision of specimen orientation in X.Y axis.
16. Section thickness range 1-60µm in 1, 2 and 5µm increments at different ranges.
17. Specimen feed/advance: 25 mm or more.
18. Vertical stroke: 50 mm or more.
19. Trimming: via Motorized coarse feed.
20. Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
21. The equipment should be USA- FDA/European- CE approved

Essential accessories:

a. High Profile Disposable blades (50 blades/packet) 10 packets.
b. OCT compound/Cryo-embedding medium 30 bottles (100-120 ml each).
c. Compatible specimen discs of different sizes 30 Nos.
d. Indigenous Constant Voltage Stabilizer of suitable rating to overcome power fluctuations.

Note: Prices of essential accessories should be quoted separately for comparison

3. Tissue embedding station

a. Should incorporate Two / Three separate systems for cold plate and heated paraffin embedding module.
b. Temperature range of cold plate: -5 to15 deg C, adjustable in steps of 1 deg C.
c. >60 cassette molds capacity with acrylic cover.
d. Large comfortable working shelf with tissue cassettes and molds at the same level or adjustable height.
e. Working surface and wax drainage completely sealed to avoid wax penetration.
f. Wax container capacity atleast 4 liter with fine mesh filter.
g. Provided with low voltage, different size, heated forceps.
h. Additional heated removable forceps holder.
i. Working area, forceps holder, cassettes opening area to drain into one tank for easy wax disposal.
j. All functions of the system controlled through electronic system with digital programmable on and off timer.
k. Bright illumination (LED lamp).
l. Adjustable paraffin dispenser control.
m. Wax dispenser nozzle projected forward. Flow of wax controlled manually or by foot switch.

n. Working surface of cold plate should not be less than 300x350mm.
o. Large space to keep additional base molds.
p. Instant touch button to regulate hot plate temperature.
q. Large low temperature area (cold plate) adjacent to hot plate temperature up to 50 deg C.
r. Adjustable temperature for paraffin reservoir, working surfaces and integrated working trays between 45^0C-70^0Cwith +/- 1°C steps
s. Paraffin reservoir, cassette bath, mold warmer and work surface temperature should be individually temperature adjustable.
t. Should have a magnifying lens adjustable in any position and white light illumination for specimen orientation.
u. Complete power cord and instruction manual.
v. To work on 220-240 volts.
w. Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
x. The equipment should be USA- FDA/European- CE approved

4. Automatic Tissue Processor, Histokinette

a. Fully automatic carousel type tissue processor.
b. Fully Enclosed system, floor standing model, compact design space saving for the optimum use of laboratory space, on rollers easy to move.
c. Laboratory environment safety having triple protection hazardous fume extraction system at processing retort, activation carbon filter and external exhaust system for the maximum safety of user.
d. Computerized monitoring multiple programming facilities.
e. Ergonomic control panel with full protected keyboard and LCD.
f. Capacity: 100-200 cassettes.
g. Provision of Gentle agitation in reaction chamber.
h. Automatic transfer of reagents and uniform reagents temperature.
i. Automatic fluid level sensor.
j. Minimum 3 wax baths with adjustable temperature from 40^0C to 70^0C.
k. Provision of vacuum infiltration.
l. Provision of cleaning of paraffin from reaction chamber after the completion of the process.
m. Provision of lock with password.
n. Provision of Audible alarms, error message and warning codes.
o. Easy editing and changing of programs, even during a processing run.
p. Infiltration time separately programmable for each station.
q. Machine should have the option of interrupting an automatic process for reloading or removing cassettes if needed to before the end of a run.
r. Baskets should be automatically immersed in a station during the power failure.
s. Indication of date, time, remaining time in process step, step number and reagent description.
t. Delay timer up to 7 days.
u. Drain time should not exceed 60 sec.
v. Safety against reagent fumes.
w. Safety device to protect over vacuum & overheating.
x. UPS of appropriate rating for safety against power failure with six hours power backup.
y. Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
z. The equipment should be USA- FDA/European- CE approved

6. GROSSING STATION

- Corrosion-resistant stainless steel working surface, sink and shelves.
- Minimum Dimensions; width 60" x depth 36" x height of work surface adjustable with minimum range 33.5" – 41.5".
- Provisions for effective rinsing system to flush clean the working surface.
- Stainless steel sink with provision for hot and cold water supply and specimen safe drain system.
- There should be a formalin tank on top of the station with direct supply system to the work area.
- Matt finish with all corners well ground with no sharp edges
- Adequately illuminated work surface with CFL/Fluorescent tube light.
- Tool bar of adequate size for easy access to dissecting instruments.

- Provisions of exhaust system for formalin fumes by ventilation through nearby existing windows/duct.
- Measuring scale in cm and inches etched or fixed on the work surface.
- Magnifying lens mounted on adjustable arm.
- Hand free controls (either sensor or foot operated) for water supply, exhaust, height adjustment and Dictaphone vinyl/Polyethylene cutting pad (Dissecting Board) approximately 24”x15”x1/4” with Dissecting area rinse assembly.
- Hand free gross digital imaging system, camera operated through foot pedal.
- Audio recording system with microphone on flex arm with dictation equipment.
- Electronic weighing scale capacity 5000 gm.
- To work at 200-240 VAC 50/60HZ.
- Online UPS system with minimum of 3 hours power back up.
- Small specimen rinse with cold water control valve and sink rinse basket with stainless steel holder.
- Formalin container, 12” stainless steel adjustable shelf, Paper towel holder
- There should be IT support for storage and retrieval of data recorded with TFT display and recording system.
- Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.

CLINICAL Laboratory

7. AUTOMATED ESR ANALYSER

1. ~~Tube employed: Special 8 x 120 mm tubes~~
2. Reading channels: 20
3. Analysis time: 15 to 30 minutes
4. Analytical capacity: 40 to 80 tests/hour
5. ~~Maximum 80 tests/hour (15 minute working time)~~
6 .Loading capacity: Maximum 20 samples at a time
7. Loading pattern: Random/batch
8. Results: In Westergren mm/h (by interpolation)
9 .Temperature correction: Automatic compensation referenced to 18Â° C (Manley)
10. Measuring method: Infrared beam
11. Reading resolution: +/- 0.2 mm
12 .Results resolution: +/- 1 mm
13. Acceptable blood draw level: 0.90 to 1.20 ml
14. Display: GRAPHIC LCD with backlight
15. Provision for barcode scanner
16. Voltage: External power supply: 100 - 240 Vac, 47 - 63 Hz 12 Vdc, 3.5A
17. System could be compatible with HIS module.
18. The equipment should be USFDA/CE approved.

8. SEMI-AUTOMATED BENCH TOP COAGULATION ANALYZER

Specifications:

1. Testing items: PT, APTT, TT, Fibrinogen, V, VII, X, VIII, IX, XI, XII, D-dimmer, FDP and AT-III.
2. Should be based on scattered light detection method to determine clotting time & clot formation will be verified by percentage test end point detection method to ensure highly reliable test results.
3. Should have 4 detector channels allowing random analysis of upto 4 different parameters in single or duplicate mode.
4. Should have a minimum 5 wells for reagent incubation & 8 wells for reaction tube holders.
5. The system must ensure thorough mixing of the sample and the regent.
6. Sample requirement must not be more than 250ul per test.
7. Temperature control must ensure 37+0.50C.
8. The system must sensitive enough to detect a weak fibrin clot.
9. Digital display of results in terms of seconds.
10. Provision of built-in printer.
11. The system should not allow interference from lipemic or icteric samples.
12. The system must store at least 50 test results of each parameter and provision for preparation for QC graphs.
13. The system must have the provision of flagging system to indicate abnormal results.

14. Must require low maintenance on routine basis.
15. Open system regarding the use of regents.
16. The system must be complete with all the accessories. Dust cover and working manual should be provided.
17. Should be compatible with HIS module
18. The cost of basic accessories for the next five years should be quoted along-with the analyzer.
19. Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
20. The equipment should be USFDA/CE approved.

9. CYTO CENTRIFUGE

- The equipment should be a Bench-top centrifuge for cytology specimens
- The equipment should be capable of thin-layer cell preparation for retrieving cells from various body fluids especially paucicellular fluids and preserving their morphology
- Cell preparation system, compact and slim.
- Totally sealed head which could be autoclaved.
- Programme speed from 100 to 4000rpm.
- Run time from 1 to 99 minutes with specimen safety alarm.
- Silent in operation.
- Totally sealed environment during operation.
- Built-in brake for immediate sample retrieval.
- Unique chamber assembly of 3 elements: Stainless steel slide clips, Microslide and Sample chamber with filter cord attached.
- Disposable sample chamber for high risk specimen.
- System functions only when lid is locked.
- Alarms for over speed and out of balance position.
- Should run at least up to 24 samples at a time.
- Concentrates cells as 6 mm diameter monolayered.
- Display of the speed and time left to complete the cycle.
- Should be complete with all accessories and consumables and instruction manual.
- To work at 220-240 volt.
- Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
- USFDA and / or European CE certified

10. Automated High End Blood Cell Counter

1. Display & print all of the following parameters:
    a. Hemoglobin, hematocrit, RBC count, mean corpuscular volume, mean corpuscular hemoglobin, mean corpuscular hemoglobin concentration, red cell distribution width-coefficient of variation (CV) and standard deviation (SD)
    b. Platelet count, mean platelet volume, platelet distribution width
    c. Total WBC count and differential leukocyte count comprised of percentage and absolute counts of Neutrophils, Lymphocytes, Monocytes, Eosinophils, Basophils.
    d. Reticulocyte count as percentage, absolute reticulocyte count, immature reticulocyte fraction
    e. % and absolute count of nucleated red blood cells
2. Hemoglobin estimation by a cyanide-free technique
3. Possess automatic floating thresholds for accurate separation of red cells and platelets
4. Capable of processing minimum 60 complete blood count (CBC)+differential leukocyte count (DLC)+reticulocyte count samples/ hour and minimum 80 complete blood count samples/ hour
5. Software generated flags should have features of definitive and suspect messages, able to follow both user-definable extended decision rules as well as ISLH consensus rules with the ability to set user-definable differential sensitivity.
6. Flags at least for the presence of:
    a. Incomplete specimen aspiration
    b. Interfering substances
    c. Giant platelets and platelet clumps
    d. Immature granulocyte/neutrophil populations

    e. Blasts
7. Provide vacutainor autoloader and cap piercing system with barcode reader
8. Should have advanced clot detection and avoidance technology (e.g. clot filters) along with autosampler and waste disposal system.
9. Capable of archiving patient data: complete results including histograms of minimum 10,000 samples.
10. Bi-directional information transfer on the LIS interface, including numeric and flag results, histograms and scatter plots,; patient demographics and patient orders
11. Tag and hold results for follow up confirmatory testing and perform delta checks on specimens from the same patient.
12. Sample requirement ≤200 µl in automated mode for CBC and DLC along with micro-sample capability.
13. In-built option to execute limited number of parameters to conserve differential reagents
14. Alerts for:
    a. Low reagents.
    b. Temperature variance
    c. Probe block
15. Sample probe backwash facility, auto-wipe of probe
16. Power specifications-220 to 240 V, 50-60 Hz.
17. An uninterrupted power supply unit/inverter for 2 hour back-up to be supplied along with and price included.
18. In-built quality control software tools including Levey Jennings charts.
19. Precision, expressed as coefficient of variance:

Parameter:	CV %
WBC count	≤3.0 percent
RBC count	≤1.5 percent
Hemoglobin	≤1.5 percent
Platelet	≤5.0 percent
MCV	≤1.0 percent
Hct	≤1.0 percent

    Accuracy of automated differential count compared with manual differential: NE = ±2.0; LY, MO = ±3.0; EO = ±1.0 (or r>0.9% for neutrophils and lymphocytes, and >0.8% for monocytes and eosinophils)
20. Linearity limits (minimum range to be included)
    WBC: 0.4-250x10^9/l
    Hb: 1-22 gm%
    Platelet count: 11-2000 x10^9/l
21. Zero down time. The quote should include back-up similar instrument acceptable to the Institute that uses the same reagents as the machine quoted.
22. Consumables and reagents for 30,000 samples to be supplied and included in the quotation. These reagents should be Free of Cost (FOC). The reagents should include CBC+ Diff+Retic.
23. 2-year warranty followed by 5-year CMC to be quoted including minimum 6-monthly calibrations and 6-monthly preventive maintenance (including all consumables, reagents and labor costs for both) for the entire 7-year period.
24. Approximate cost per test for the combinations of CBC, CBC + DLC, CBC+DLC+reticulocyte count to be given in the price bid
25. The price of all reagents, consumables and daily quality control material for complete blood count including differential leukocyte count and reticulocyte counts to be quoted in INR in the price bid for approximately 60,000 complete blood counts including WBC differential and 24,000 reticulocyte counts per year. These are to be frozen for seven years (i.e. 2 year warranty + 5 year CMC). These costs shall be taken into account along with the instrument cost for price comparison.
26. The instrument should have the capability or be upgradable for attachment of slide maker and slide stainer.
27. A local-area-network (LAN) set-up of 5 computers (monitors and CPU) interfaced with the analyzer to enable multiple users to authorize reports electronically on the LIS/HIS to be provided and set-up.
28. Air conditioner(s) 1.5 tonnes if temperatures lower than 22 degrees centigrade are required by the equipment.
29. ~~Appropriate tables and chairs to keep the equipment and UPS/inverter~~.
30. Compatible color and black and white laser printers (to be included in the equipment price).
31. Compliance / deviation statement to be submitted with technical bid; all statements supported by scientific literature.
32. Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.
33. **The equipment should be USA-FDA and /or European –CE certified.**

FOLLOWING ITEMS SHOULD ALSO BE PROCURED & ADDED TO THIS TENDER:

12. FULLY AUTOMATED CELL COUNTER (THREE PART DIFFERENTIAL HAEMATOLOGY ANALYZER)

QTY -1

1. Should be fully automated haematology analyzer 18 parameters, including three part differential.
2. The system should give the differential count as lymphocytes, mixed population and neutrophils in percentage as well as absolute count. (Mixed population should include eosinphilis, basophils and monocytes).
3. The system should have large LCD display to review all the results along-with three histogram of WBC, RBC and PLT on the screen.
4. System should be capable of processing atleast 50 samples/hr.
5. The system should have built-in-printer.
6. The system should have automatic floating thresh hold for correct separation of WBCs, RBCs and platelets during overlap of microcytosis/large platelets.
7. The system should use cyanide free regents.
8. The system should have an option to print the results with histograms and also the option to print basic parameters like RBC, WBC HBG, MCH, MCHC, HCT, MCV and platelet.
9. System could be compatible with HIS module.
10. System should haveon board memory of at least 100 samples results.
11. Should have local service engineer stationed for emergency technical support.
12. The equipment should be USFDA and / or European CE approved.
13. Original literature of the equipment should be attached.
14. Should supply a suitable UPS with half an hour power back-up.
15. The cost of consumables for 20000 tests per year should be quoted and will be included in the price comparative.
16. Should work on 220-240V/50-60 Hz.
17. Documents supporting track record & satisfactory performance from Institutions of National importance (Minimum of One Institute) should be provided.

13. Automated Integrated Urine Chemistry and Sediment Analyzer - ONE QTY.

Instrument should be Compact Bench-top, Fully Automated Integrated Urine Analyzer, integrating both Urine Chemistry and Urine Sediment analysis.
For Chemistry, it should provide Parameters like Glucose, Protein, Blood, Bilirubin, Urobilinogen, ph, Ketones, Nitrate, Leuokocyte, Creatinine (optional), Albumin, Albumin / Creatinine ratio, Protein / Creatinine ratio (optional).
Instrument Strip Feeder should have Storage of 300 - 400 test strips at a time with Continuous Loading for True Walkaway Analysis and should have capability to load two different types of strips for better flexibility in Analysis
The instrument should also provide Parameters including Specific Gravity, Turbidity & Colour.
For Sediment analysis the instrument must be based on Fluorescence Flowcytometry for measurement of Parameters such as RBC, WBC, Epithelial Cells, Cast and Bacteria with Separate Channels with Dedicated Staining Dyes for Measurement of Bacteria and Sediments.
Should provide Scattergrams and Histograms for easy interpretation.
Should provide additional RBC Morphology Information like Dysmorphic, Isomorphic.
Should Comply with ISLH by using only Un-centrifuged Native Urine samples for analysis.
Software should be User friendly with Crosscheck function and Data Storage of around 10000 samples including graphics & 24 QC Files with 300 data points each.
Instrument throughput should be minimum 200 samples / hour (chemistry) & 100 samples / hour (sediment analysis).
Instrument should be capable of analysis in both Manual and Automated Sampler Mode with capacity Of 60 sample tubes.
Barcode for Sample Identification.
The firm should have Controls available for both chemistry and sediment analysis
Instrument results can be Output to Printer or Transmitted to LIS / HIS.
Equipment will be supplied with suitable on-line UPS with one hr backup

14. Storage Cabinet for 10000 Slides - 10 Nos.

For safe and easy handling of 75 × 25 mm Slides. Made of CRC sheet. Well designed for its performance, durability and appearance. Powder coated paint outer finish with smooth working doors fitted with handle, lock and key.

The anodized seamless moulded (die-pressed) aluminum slide strays for holding 75 × 25 mm slides, have been arranged separately so as not to disturb other compartments while taking out or putting in the slides.

The usual size of the tray is 335 × 230 × 35 mm and is properly fitted with uniformly slotted aluminum carriers in four rows, each holding 50 Slides i.e. each tray holds 100/200 Slides in horizontal position and is fitted with index holder. Slide holding slotted rows are numbered 1 to 50 to identify the slides.

V. MICROBIOLOGY DEPARTMENT

S.NO	NAME OF THE ARTICLE	SPECIFICATIONS
2.	ELISA READER AND WASHER	1. Should have reading capability of 1 to 96 wells individually. Should have a linear measurement range of 0 to 3.000Abs.Absorbance range 0-4 OD, Accuracy upto 0.001 OD 3. Should have wavelength range from 340 to 750nm. 4. Should have a photometric accuracy of ± 1nm or better. 5. Should have a resolution of 0.001Abs. 6. Should have variable speed plate shaking capability. 7. Should have easy access 8 position filter wheel 8. curve fittings formulas transformation and control assay validation with compatible interface with PC along with power backup andexternal printer. 9. Should have automatic filter selection. 10. Should have automatic calibration before each reading. 11. Should have at least 6 to 10 second reading speed. 12. Should have facility for storage of calibration curves. 13. Should have different types of blanking facility like air wise and well wise. 14. Should be capable of reading U.V and flat type wells 15. Should be capable of reading 8 or 12 well strip plates. 16. Should use halogen light source and two spare bulbs should be provided. 17. Should have facility of providing printed report to the patient through the machine.. 18. Should have external printer connectivity option. 19. Firm will have to supply compatible UPS with minimum half hr backup along with the equipment free of cost. 20. Original literature of equipment and consumables should be submitted. 21. User's list should be attached with satisfactory report for the last three years from three blood bank users with contact details. 22. Demonstration of performance of equipment is compulsory in nearby area for technical evaluation failing to which will be a disqualification. 23. System should USFDA or European CEapproved. Also the system should be IVD approved 24. Electrical: The equipment should be able to run on the existing electrical provision 25. B**) ELISA Plate Washer** 26. Should have capability to wash flat, U or V bottomed micro plates. 96 well microplate 27. Should have 12 way manifold 28. Should have programmable washing time, volume and soaking time. Memory for around 50 programmes including dispensing volume (50-400microlit/well) and multispeed micro plate shaking programme. 29. Should have minimum 6 wash cycles.

		30. Should have continuous operating cycle. 31. Should have residual volume less than 2µl. 32. Should have removable and autoclavable plate carrier. 33. Should have in-built vacuum and dispensing pumps to ensure accurate and quite washing. 34. Should have waste bottle with full bottle alarm or sufficient mechanism to avoid spillage and damage to equipment **Should be provided with 4-6 bottles. Vol: 4-6lit** **LCD display with membrane key pad.** **Safety device: aerosol cover, removable plate carrier, spill over protection and overflow protection safety system.** 35. Should work with input 200 to 240Vac 50 Hz supply. 36. Should be European CE or US FDA or BIS approved product. 37. Firm will have to supply compatible UPS with minimum half hr backup along with the equipment free of cost. 38. Original literature of equipment and consumables should be submitted 39. User" s list should be attached with satisfactory report for the last three years from three blood bank users with contact details. 40. Demonstration of performance of equipment is compulsory in nearby area for technical evaluation failing to which will be a disqualification 41. Electrical: The equipment should be able to run on the existing electrical provision
4.	AUTOMATED BACTERIAL INCLUDING MYCOBACTERIAL CULTURING SYSTEM	• Fully automated system capable of blood, body fluids and mycobacteria testing in the same instrument with minimum 450-500 positions. • System should be capable enough to culture mycobacterium tuberculosis from respiratory samples, in case if it is required i.e. one system is capable enough to culture blood specimen, sterile body fluid and mycobacterium tuberculosis. • System should work on the reliable colorimetric / Fluorescence principle of detection based on CO2 sensor to indicate growth of organisms. • System should have LIS compatibility. • Every cell should have its own optics and detection device. • System should have built in calibration check. • System should have touch screen monitor. • System should be capable of exporting data to zip drive for long term storage. • System should have facility of analyzing delayed entry specimens with the routine bottles. • System should have a capability for continuous monitoring of samples for growth of organism in each cell. • System should have continuous agitation to provide facility for optimal growth for the organisms. • System should have special type of culture bottles to neutralize antibiotic effect. • System should also be capable for detecting yeast and other fastidious organisms. • System should support use of plastic / unbreakable material bottles for safety and ease of disposal. • System should have interface for lab information system. • System should an external bar code reader. • System should have FDA clearance for blood, sterile body fluids and platelets • Training of staff for proper functioning should be provided by manufacturer. • During supply the following start-up kit must be provided along with the equipment – Adult Blood Culture Bottles (400 Nos), Paediatric Blood Culture Bottles (500 Nos), TB / Mycobacterium Culture Bottles (100 Nos)& Anaerobic Culture Bottles (200 Nos). • Although adequate infrastructure is present for the installation, but any additional requirement in terms of infrastructure, electrical changes and ambient temperature maintenance to be done by the supplier. • Firm will have to supply compatible UPS with minimum half hr backup along with the equipment free of cost.

		• Original literature of equipment and consumables should be submitted. • User" s list should be attached with satisfactory report for the last three years from three blood bank users with contact details. • Demonstration of performance of equipment iscompulsory in nearby area for technical evaluation failing to which will be a disqualification. • Electrical: The equipment should be able to run on the existing electrical provision • Comprehensive warranty for 2 years and 5 years AMC after warranty • Documentation: Certificate of calibration and inspection. List of Equipments: available for providing calibration and routine maintenance support as permanufacturer documentation in service / technical manual. • List of important spare parts and accessories with their part number and costing. • Should be by US FDA certified. • Price of consumables should be quoted separately &fixed for a period of 5 years. The payment for the same shall be given by KCGMC upon delivery. • Documents supporting track record & satisfactory performance for atleast last two years from Institutions of National importance (Minimum of Three Institutes) should be provided.
5.	AUTOMATED IDENTIFICATION & ANTIBIOTIC SUSCEPTIBILITY SYSTEM	•Fully automated system, used for identification and antimicrobial susceptibility of clinically significant bacteria and yeast (ID and/or AST). •System should work on advanced colorimetric / fluorescence technology for identification and susceptibility testing. •The system should have capacity to accommodate at least 40 to 60 tests (either ID and/or AST tests), at any time. •System should generate reports in earliest possible period less. •The system must have a bar code scanning device for test card identification and specimen number entry. •The system should have Identification cards for Gram negative, Gram positive, Yeast Anaerobic, Bacillus spp. and Neisseria-Haemophillus. •The System should have a database of at least 3500-4500 reference phenotypes. •Identification up to species level. •Antibiotic Susceptibility Test: (up to MIC level) •The system must provide highest discrimination between species •The system may have separate cards for Identification and Susceptibility testing •The software should have the following capabilities •Workflow management. •Data storage. •Test quality control management. •Test result validation capability and ability to detect antibiotic resistant bacteria. •Consumables should be disposable sealed bar coded card (ready to use) with pre filled reagents with pre inserted transfer tube for easy automatic transfer of inoculums. •The system must have the ability to check the quality of test results and stop for validation by Microbiologists •The system software must have the ability to alert to any unusual resistance mechanism. •Training of staff for proper functioning should be provided by manufacturer. •Atleast500-600 test kits should be provided along with initial system. •Although adequate infrastructure is present for the installation, but any additional requirement in terms of infrastructure, electrical changes and ambient temperature maintenance to be done by the supplier. •Firm will have to supply compatible UPS with minimum half hr backup along with the equipment free of cost. •Original literature of equipment and consumables should be submitted. • Demonstration of performance of equipment is compulsory in nearby areafor technical evaluation failing to which will be a disqualification. •Electrical: The equipment should be able to run on the existing electrical provision.Comprehensive warranty for 2 years and 5 years AMC after warranty

		•Documentation: Certificate of calibration and inspection. List of Equipments available for providing calibration and routine maintenance support as permanufacturer documentation in service / technical manual. •List of important spare parts and accessories with their part number and costing. • Should be US FDA approved • Price of consumables should be quoted separately & fixed for a period of 5 years. The payment for the same shall be given by KCGMC upon delivery. • Documents supporting track record & satisfactory performance for atleast last two years from Institutions of National importance (Minimum of Three Institutes) should be provided.

6. Glassware for Microbiology Department:

LIST OF GLASSWARE AND OTHER CONSUMMABLES FOR MICROBIOLOGY DEPARTMENT - CLINICAL LABORATORY

S.NO	NAME OF ITEM	MEASUREMENTS	REQUREMENT
1	Measuring glass cylinder	1000ml	20
2	Measuring glass cylinder	500ml	20
3	Measuring glass cylinder	100 ml.	20
4	Measuring cylinder plastic	1000 ml.	20
5	Measuring cylinder plastic	100 ml.	20
6	Micro tips stand big	1000 micro lit	20
7	Micro tips stand small	100 micro lit	20
8	Micro tips Blue big		5000 tips
9	Micro tips small Yellow		5000 tips
10	Glass Test Tube	18x150mm	2000
11	Glass Test Tube	12 X 100	4000
12	Glass Test tube	15x125mm	1000
13	Glass Test tube	12 X 75	2000
14	Glass Test tube	10 X 75	2000
15	Glass Test tube	38 X 200	200
16	Glass slide	25x75mm	Each box 50 slide
17	Glass flask flat bottom	50 ml	20
18	Glass flask flat bottom	100 ml	50
19	Glass flask flat bottom	250 ml	50
20	Glass flask flat bottom	500 ml	200
21	Glass flask flat bottom	1000 ml	200
22	Glass flask falt bottom cap	2000 ml.	50
23	Glass flask flat bottom cap	3000 ml.	20
24	Glass Beaker	1000 ml.	24
25	Glass Beaker	500 ml.	50
26	Glass Beaker	250 ml.	100
27	Glass Beaker	100 ml.	50
28	Glass Beaker	50 ml.	50
29	Glass Reagents bottle	2000 ml.	24
30	Glass Reagents bottle	1000 ml.	30
31	Glass Reagents bottle	500 ml.	50
32	Glass Reagents bottle	250 ml.	50
33	Glass Reagents bottle	100 ml.	50
34	Glass Reagents bottle	60 ml.	200

35	Plastic tub	Large	20
36	Plastic Droping Bottle	100 ml.	500
37	Mounting cover slips		100 packets
38	Microscopic cover slips glass	22 mm	200 packet X 10 gm each
39	Staining glass rods		100 X 2 feet each
40	Petri dish	90mm	2000
41	Thermometer	0-100 degree C	20
42	Thermometer	0-300 degree C	05
43	Tissue culture bottle/Blood culture bottle with aluminum cap and inner rubber vassal	120ml	1000
44	Bijou bottle	30 ml.	1000
45	Macotony vial	5 ml.	1000
46	Durham's tube small		100 X 144 (100 Gruss)
47	Funnel	75mm	50
48	Funnel	250ml	50
49	Nichrome inoculating loop with handle		200
50	Nichrome inoculating wire with handle		200
51	Sample collection swab sticks		10000
52	Universal urine container sterilized		10000
53	Needle Destroyer		20
54	Macartuny vial	30 ml.	500
55	Spirit lamp Aluminum	100 ml.	150
56	Aluminum slide tray		50
57	Steel tray SS	Size 18 inch X 12 inch X 3 inch	50
58	Aluminum foil	1 kg.	20
59	Filter paper watsman	22 X 22 inch	2000
60	Forceps' SS	4 inch	30

All glassware should be autoclaveable & should be of Borosil or Corning or Pyrax Make

VI. Specifications of Items for Department of Forensic Medicine

Sr. No.	Item Name	Specifications
2	Autopsy saw, with accessories	1. Electrical operated saw suitable for autopsy application. 2. Should have inbuilt motor. 3. Motor speed should be more than 15,000 RPM. 4. Oscillation rate should be more than 21,000 per minute. 5. Should cut bone easily to minimize operator fatigue. 6. Should be attached to HEPA bone dust collector. 7. The equipment should be supplied with following accessories. a. Light weight Hand piece with inbuilt motor-1 b. Cable for Hand piece attached or separate-1 c. Blades for autopsy saw- 20 no.s. 8. Standard, Safety and Training. 9. The Manufacturer should have ISO certification. 10. Product should be USFDA or EU European CE certified.
2	Automatic tissue processing machine	1. ~~Fully automatic carousel type tissue processor~~. 2. Computerized monitoring multiple programming facilities. 3. Ergonomic control panel with full protected keyboard and LCD 4. Capacity: Up to 200 cassettes. 5. Provision of Gentle agitation in reaction chamber. 6. Automatic transfer of reagents and uniform reagents temperature. 7. Automatic fluid level sensor. 8. Minimum 3 wax baths with adjustable temperature from 40°C to 70°C. 9. Provision of vacuum infiltration. 10. Provision of cleaning of paraffin from reaction chamber after the completion of the process. 11. Provision of lock with password. 12. Provision of Audible alarms, error message and warning codes. 13. Easy editing and changing of programs even during a processing run. 14. Infiltration time separately programmable for each station. 15. Machine should have the option of interrupting an automatic process for reloading or removing cassettes if needed to before the end of a run. 16. Baskets should be automatically immersed in a station during the power failure. 17. Indication of date, time, remaining time in process step, step no. and reagent description. 18. Delay timer upto 7 days. 19. Drain time should not exceed 60 seconds. 20. Safety against reagent fumes. 21. Safety device to protect over vacuum & overheating. 22. UPS of appropriate rating for safety against power failure with six hours power backup. 23. The equipment should be USA-FDA and European-CE approved.

VII. HOSPITAL ITEMS

Technical Specification of X-Ray View Box

1. Slim, Durable and Effective
2. Energy Efficient: Saving range more than 82%
3. No UV emission
4. Unparalleled latest LED backlight technology
5. Power efficient, LED light with long life up to 100,000 hours
6. Reliable magnetic nipper
7. Initial brightness can be set
8. Film activated switch, automatic shutdown if no film inside for 2 to 10 sec
9. 8 to 12 step digital dimmer to get the perfect brightness

Parameter		Single Screen	Two Screen	Three Screen	Four Screen
Dimension (mm)	Frame (LxHxT)	500±100x 500±100x 30±10mm	900±100x 500±100x 30±10mm	1200±100x 500±100x 30±10mm	1600±100x 500±100x 30±10mm
	Viewing Area (WxH)	400±100x 500±100	750±100x 450±100	1100±100x 500±100	1500±100x 450±100
Power Consumption		10-20W	30-40W	40-50W	50-70W
Power Supply Input		LED	LED	LED	LED
Brightness (LUX)		AC100-240V, 50/60Hz	AC100-240V, 50/60Hz	AC100-240V, 50/60Hz	AC100-240V, 50/60Hz
Brightness (LUX)		>10,000	>10,000	>10,000	>10,000

NOTE:

1. PLEASE NOTE THAT AFTER ANY AMENDMENT IS ISSUED, BIDDERS ARE REQUESTED TO RE-SUBMIT / RE-LOAD THE ONLINE BID AGAIN.

2. THE BID NOW STANDS EXTENDED TO 17.03.2017 AT THE SCHEDULED TIME & PLACE.

3. NO OTHER CHANGES (EXCEPT THE ABOVE) IS THERE IN THE BID DOCUMENT & ALL OTHER CONDITIONS (EXCEPT THE ABOVE) REMAINS UNCHANGED

In case of any quarries related to Bid Up-loading please contact the following:

1. Mr. Tapas Nath, DGM (BME): 8376905314.
2. Mr Divyanshu Bhardwaj: 8587883443.
3. Mr. Parikshit Singh: 9971097957.