HSCC/SJH/Med.Eqpt./2016 Date: 09.5.2016

Amendment-IV

Ref.: Tender No. HSCC/SJH/Med.Eqpt./2015/14 dt. 04.4.2016.

Sub.: Procurement of Medical Equipment for New Emergency Block & Super-Specialty Block at Safderjung Hospital, New Delhi.

The amendment of tender specifications are enclosed. The pre-bid meeting is on 17.5.2016 at 2.30 PM at Safderjung Hospital. Bid submission date is 24.5.2016.

All other tender terms and conditions remain unchanged.

Amendment to be issued will be uploaded on websites www.tenderwizard.com/HSCC & www.hsccltd.com.

Medical Superintendent
Safderjung Hospital & VMMC,
New Delhi.

Automated External Defibrillator (AED)

Automated external Defibrillator should be US-FDA certified semi-automated, low energy Biphasic with maximum 200J energy level to deliver shock energy, complying with guidelines of AHA 2010 and must be upgradable to any future changes without any extra cost.

AED should have an LCD that is capable of displaying text prompts & ECG on screen.

The unit must provide feedback on CPR in real time with both visual and audible prompts on CPR rate and complying with AHA 2010 guidelines.

AED should be compact, light weight, portable with easily identifiable on/off switch and preferably with a handle to carry.

Warranty of AED unit should be minimum five years, shelf life for defibrillation electrode pad should be minimum five years(if un-used) and stand-by life of disposable battery should be five years or minimum 200 shocks.

Bidders must quote for the price of 2 disposable battery set and same will be included in comparative evaluation to arrive at final cost for lowest bid.

Should be able to operate under following environmental conditions:

Temperature –Operating:dg-50dgC,
Humidity –Operating:12% to 90% relative, non-condensing.
Altitude – Operating – 100 to 15,000 feet or above.

The unit should have ability to record data to an internal memory and to upload the same to a computer via wireless mode.

Should come with 10 pairs of CPR pad / defibrillator pad/gel sheet and two disposable batteries set per equipment.

Urology Mobile C-Arm	
1	C-Arm with large LCD display
2	1K x 1K High resolution imaging chain with progressive scan CCD camera
3	9” Image Intensifier and dedicated computer based acquisition system
4	The unit should be based on digital technology for unparalleled reliability and ease of use
5	X-RAY GENERATOR:
A	High Frequency X-Ray Generator with power output 6KW or more should be provided.
B	Following modes should be provided:
B.1	Radiography
B.2	Fluoroscopy: continuous, single pulse, multi pulse
B.3	KV Range (Rad./Fluoro): 40 to 120KV.
B.4	Radiographic mA Range: more than 80mA
B.5	Fluoroscopy mA output: Up to 5mA or more (Normal Fluoroscopy)
B.6	Up to 15mA or more (Boosted fluoroscopy)
B.7	mAs output: 0.1 - 200mAs or more
6	X-RAY TUBE:
A	Dual focus Rotating Anode X-Ray Tube of focal spot 0.3mm² (small) & 0.6mm² (large) to be provided.
B	Anode heat storage capacity should be more than 250KHU.
C	Motorized Iris Collimator with auto shut off facility for light should be provided.
7	CONTROL PANEL:
A	LCD Display for following parameters should be provided:
B	Display on which KV, mAs, Fluoro Time, I.I ZOOM and Body part, View of Radiography are displayed on Wide angle LCD.
C	APR (Anatomical Programming) in Radiography Mode i.e. pre- selected parameters are programmed in the machine as per the Body Part selected/to be exposed should be provided. APR should cover Head, Chest, Abdomen and extremities.
D	Exposure Modes: Continuous and Pulsed Fluoroscopy up to upto30 FPS.
E	Radiographic Mode (cassette exposure) up to 120 KV & more than 80mA.
F	Timer (Fluoroscopic): Fluoroscopic cumulative timer of 5 minutes with beep.
G	Tube safety Sensor: X-Ray Tube head Temperature Sensor for Thermal Safety cut off.
H	Switches: - Mode Selector Switch.
I	Collimator Control Switches.
J	I.I. Zoom Selection Switches.
K	Exposure initiation Switches for Fluoro/ Radiography.
L	ADRC MODE: Auto Dose Rate Control for consistent image quality.
M	Self Diagnostic: Various system interlocks should be displayed on LCD screen for effective and prompt troubleshooting.
8	STAND:
A	Up/Down movement (Noise free Actuator movement): At least 430mm
B	Horizontal Movement: At least 200 mm.

C	Arc Orbital: 90º + 30º (120º)
D	Wig wag: ± 12.5º (25º)
E	Rotation: ± 180º
F	Free Space: 730mm or more
G	Focus Screen Distance: 950mm or more
H	Arc Depth: 600mm or more
I	Locks: Locks for all the movements.
J	Foot lock: Control Stand foot lock.
K	Steering wheel for easy steering & movement should be available.
9	High resolution Imaging Chain:
A	9 Inches, Triple Field Image Intensifier should be provided..
B	CCD Camera with a progressive scan sensor of 2/3" of 1K x1K Medical Grade
C	The acquisition should be made at 14 bits.
10	MEMORY SYSTEM:
A	PC based memory system with the following features should be provided:
B	Image processing software with Real time image capturing, storage, and display in 1K x1K format
C	Boosted Fluoroscopy (CINE) up to 30 FPS with real time recording on Hard Disk Drive.
D	More than 1000 image storage capacity in 1K x 1K format
E	Dicom 3.0 Ready
F	Dicom CD/DVD
G	Connectivity with PACS and HIS
H	Length and angle Measurements with Annotation
I	Pre Programming for Image setting for different operating Modes.
J	Image Flipping and Image rotation
K	WW/WL adjustments
L	Recursive Filters for image smoothening
M	Programmable Motion Detection facility
N	Gamma Curve adjustments for optimum image quality.
O	Image Zoom with Pan
P	Image Inversion
11	MONITORS:
A	Medical Grade Monochrome high brightness, High contrast 19" LCD Monitors should be provided – 2 nos.
B	High-end monitor trolley with foldable monitors, digital display of servo output voltage, actuator assisted height adjustable movement of monitors to facilitate viewing of images at most convenient eye level position, specially designed integrated keyboard having feather touch keys and touch pad is provided instead of double unit keyboard and mouse, 5" wheels for better mobility.
12	POWER SUPPLY REQUIREMENT:
A	Single Phase, 230 Volts, AC, 15 Amps, 50 Hz, ± 10% Regulation. Independent earthing required on the wall socket in the Room.
13	ACCESSORIES:
A	Lead Apron (Lead Equivalence 0.5 mm) regular size - 6 Nos.

B	Thyroid shield - 6Nos.
14	OTHER REQUIREMENTS:
A	The company should be ISO 9001:2000, ISO 13485:2003.
B	The company should have a local Service center.
C	5 years warranty on all supplied items including x-ray tube accessories.
D	5 years comprehensive maintenance charge (CMC) of all items.

Hemodialysis Machine with SLED and Hemodiafiltration Facility

Technical specifications

Capable of providing conventional hemodialysis, SLED, haemofiltration and online haemodiafiltrtation
Facility for Acetate, Bicarbonate, dry powder & Sequential dialysis (Isolated UF)
Option for both Pre-dilution & post-dilution of blood should be available
HDF Substitution fluid be produced online with a delivery rate of wide range (20-500 ml/mt)
Should have appropriate filters for preparation of ultra-pure dialysate, with endotoxin retention capacity of at least 10^6 IU
Built in NIBP
Na and Ultra filtration profiling
Audio visual alarms :
Conductivity and automatic bypass
Air detection and automatic clamp
Temperature and automatic bypass
Water and dialysate flow alarm
Arterial and venous pressure alarms
Optical/photo blood leak detector and ultrasonic air detector
Wide range dialysate temperatures selectivity (34 to 39 deg. C)
Variable conductivity setting (13 to 15.7 mS/cm)
Wide dialysate flow rates options (100-1000 ml/mt with increments of 100 ml/mt)
Wide range blood pump flow option (30-600 ml/mt with increment of 10 ml)
Facility to show treatment parameter trends every 15-20 minutes digitally as well as by graph
Heparin pump with variable syringe size with wide infusion rate (in 0.1 ml/hr increments)
Wide ultra filtration range (0.1 to 3.5 kg/h) with volumetric control
Integrated heat and chemical disinfection facility
Online measurement of effective urea clearance (kt/V)
All important data be pre-settled so that machine can be used without feeding data every time
Automatic self test facility
High resolution color touch screen with functional keys
Appropriate Operating voltage for Indian conditions, with battery backup of at least 30 mins
Undertaking from the company/dealer that the price of proprietary AV tubings required for the machine will be frozen for 5 years.

Accessories

COMPULSORY accessories, which are must for smooth and safe running of machine must be quoted along with machine including Data Processing computer and printer if required.

Environmental factors and power supply

Shall meet General Requirements of Safety for Electromagnetic Compatibility.
The machine shall be capable of being stored continuously in wide range of temperature (0-50 deg C) and relative humidity (15-90%)
Capable of operating in wide ambient temperature (20-30 deg C) and wide relative humidity
Power input : 220-240V/ 50 Hz AC Single phase or Three phase fitted with appropriate Indian plugs and sockets.

Suitable Servo controlled Stabilizer/CVT/UPS should be supplied, if required

Standard, safety, demonstration, training, warranty and maintenance
Electrical safety conforms to standards for electrical safety
Should be FDA/European-CE/IVD certified
The bidders must quote for ***FIVE years*** Comprehensive Warranty for complete equipment (Including all spares and labour)
Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply of equipment.
Company should be in market for at least five years
Machine should have been supplied in atleast 3 major government institutions
Machine demonstration has to be done in the Safdarjung Hospital, New Delhi. Time and date of demonstration will be as per department decision
Training of the hospital staff if required should be done by the manufactures
All spare parts (Electronic, Mechanical, plastic etc) required as such or due to wear and tear should be included in warranty period and in Comprehensive AMC period. Also all parts/components provided locally should also have to be maintained by company
Sole responsibility of warranty and CMC will be of the parent company
Elective visit once a week day as decided by the department
Preventive machine maintenance regularly as per machine requirement in Safdarjung Hospital, Delhi.
Response time for acknowledgment of complaint 30 minutes
Response time for physical presence within one working day
Uptime 355 days in a year

Documentations
ORIGINAL user and service manual in English to be provided
Certificate of calibration and inspection to be provided, if required
Attach ORIGINAL manufacturer's product catalogue and specification sheet
Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point , if not substantiated with authenticated catalogue/manual, will not be considered.
A complete list of the institution, where machine has been supplied along with the name, designation, mobile and office contact details of the person handling the machine should be provided
Machines details and brochure should also be available on company website
List of important spare parts and accessories with their part number and cost should be provided
List of Equipment available for providing calibration and routine Preventive Maintenance
Support, as per manufacturer documentation in service/technical manual should be provided.
Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist should be provided.
The job description of the hospital technician and company service engineer for maintenance of machine should be clearly spelt out.
If some component/part of machine or its accessories are to be provided by Indian counterpart/agent, that should be very clearly defined in the bid and its cost should be clearlyseparated out.

Portable reverse osmosis (RO) water treatment plant for dialysis

Description of Function

Supply, erection, commission, testing, operation and maintenance of water treatment plant suitable for supplying water for 20 hemodialysis machines and two dialyser reprocessing machine with necessary supportive arrangement like pre-treatment, RO Unit, Post treatment unit, electrical panel, RO panel, measuring devices etc for the proper functioning of the plant in the hemodialysis unit with the quality of treated water as per AAMI standard.

General Conditions :

Installation should be on Turnkey basis

The RO System should be quoted with *Five years warranty* followed by five years CMC charges.

All maintenance including spare parts (Electronic, Mechanical, plastic etc), software updates and all consumables (i.e. All types of Filters, Membranes, disinfectants and salt consumption) should be included in warranty period and in CMC Charges.

RO Unit should be maintained by Manufacturer, supplier or authorized dealer through skilled staff.

Water testing (chemical and bacterial) should be included in maintenance and should be done once every six months.

Only those vendors will be considered having in-house service facility in India.

ALL piping (of PEX material) and plumbing work related to unit as per design of unit should be provided by supplier at its cost.

Manufacturing company should have an installation base of more than 10 RO System in India in which at least 25%of them should be of 1000 liter capacity or more.

The bidder must submit at least three performance certificates from government hospitals/institutions where a similar RO plant has been installed.

Tenders should be quoted with full quality assurance certificate (EC Certificates)

Company should provide onsite demonstration if deemed necessary.

Service engineer for repair and maintenance should be provided by manufacturer certified local representative or parent company

Quotations should also include appropriate environmental preparation of the area housing the plant.

Bidder may inspect the proposed dialysis unit / building plan of dialysis unit before preparing the final quote to assess the amount of work.

After sales service centre should be available at the city of Institution on 24 (hrs) X 7 (days) X 365 (days) basis. Complaints should be attended properly, maximum within 8 hrs.

The service should be provided directly by Bidder/Indian Agent. Undertaking by the Principals that the spares for the equipment shall be available for at least 10 years from the date of supply of equipment.

Pre-treatment

Pre-treatment should have a Mesh Filter of 50 microns.

There should be an automatically controlled Solenoid Valve to fill the Raw Water Tank.

Raw Water Tank having food grade quality for at least 750 Liters capacity to store Raw Water.

Sand Filter with sand particles of different grade should have fully automatic backwash & rinse cycles every day.
Particle filter, cartridge filter type of 50 microns to 10 microns.
Should have build in dual column softener with fully automated digital display, brine fill and clean cycles. It should also have a brine tank incorporated in the system.
Carbon filter with fine carbon granules should have fully automatic backwash cycle & rinse cycle every day.
Should have fine filter, cartridge type of 5 micron & 1 micron.

RO Unit
Should be Microprocessor based fully automatic RO System which should produce water as per AAMI Standard
The complete system should be fully programmable.
Should have inbuilt ability to show conductivity of permeate produced, temperature, yield, permeate output supply.
Should supply 1500 Liter /hour of permeate.
Should have dynamic Water-Saving Technology and rinsing system available.
There should be facility to upgrade system by adding additional membrane to increase capacity.
Yield setting should be between 50% - 70%.
Would operate on 3-phase supply.
Appropriate Online UPS required for RO Plant should be included in the total cost
Should have automatic volume controlled disinfection cycle
In built capabilities to show on display for Permeate (Supply in liter/min, Temperature) & for Raw Water (Consumption in Liters/min & Pressure)
Should have programmable fully automated rinse cycle for membranes wash.
There should be a provision of OFF line mode and ONLINE mode of Permeate Supply.
It should be possible to use permeate supply to run the dialysis machines directly without collecting permeate to tank.
Should have facility for automated heat disinfection of the distribution loop

Post Treatment System
Should have appropriate material and shape Permeate Storage Tank of at least 750 Liters capacity with level control system.
Should have sub-micron bacterial filter of 0.2 microns manually back washable.
Should have Flow Indicator of Wall mounting type showing Litres / Min Supply and to build back pressure.
One additional booster pump should be supplied with the system.
Should have Stainless Steel, 316 grade Push-Pull type Stainless Steel Connectors for Water outlet at Dialysis machine connecting points for 25 points.

Specifications for Dialysis Chairs

Technical Specifications:

1. Should be ergonomically designed and comfortable to the patient.
2. Should allow the patient to rest in full sitting and lying position.
3. Should have electronically controlled adjustment for back section, leg section and height.
4. Should have a patient hand set with controls for all positions.
5. Arm set should fold to allow side entry of the patient.
6. Seat cushion should be removable, made of proper density foam and should have smooth surface for easy hygiene and cleaning.
7. Frame should be made up of corrosion free galvanized steel with powder coating and should have four 150mm dia swiveling castor wheels of which the front two should be lockable.
8. Should be able to withstand a maximum load of 150kg.
9. Should have facility for online weight measurement (optional).
10. Should have detachable drip stand and a tray table.
11. Power input 220-240 VAC, 50HZ fitted with Indian plug.
12. Should have USFDA/European CE approved product.
13. Manufacturer/Supplier should have ISO certification.
14. All electrical actuators and mechanisms should be housed inside the structure making the product safer.
15. User/technical/maintenance manuals to be supplied in English.
16. Certificate of calibration and inspection .
17. Demonstration of the equipment at Safdarjung Hospital is a must
18. Comprehensive Warranty for 5 years and 5 years AMC after warranty for complete equipment (Including all spares and labour) by principal manufacturer.

SPECIFICATION FOR NON INVASIVE VENTILATOR

1. Modes of Operation : CPAP, Spontaneous/Timed/Bilevel Positive Pressure Ventilator.

2. Pressure Range : IPAP : 4-40cm of H_2O ; EPAP : 4-20cm of H_2O
CPAP : 4-20cm of H_2O

3. Rate : 4 to 40 BPM.

4. Inspiratory Time : 0.5 to 3.0 sec. with resolution of 0.1 sec.

5. IPAP Rise Time : 0.05 to 0.40 sec.

6. Oxygen Conc. : 21 to 100%

7. Inbuilt Oxygen Blender Module to control FiO2 (21 to 100%)

8. Should Display graphs and following parameters on screen :
IPAP, EPAP, CPAP, Respiratory Rate, Exhaled Estimated Tidal Volume, Minute Volumes, Pl. Leak, PIP, Percentag of Patient Triggered Breaths, Ti/Ttot,

9. Full Screen Real Time Graphics for display of Waveform display of Pressure, Vol and Flow information, Patient parameter display, advanced alarms and Oxygen Blending facilities using high pressure gas from wall outlet.

10. Facility for Audio Visual alarm for High Pressure, Low Pressure Apnea, Low Min Vol. Ventilation , High /Low Rate.

11. Facility to assures optimum triggering and cycling sensitivity throughout changing breathing pattern and leaks using an algorith for digitally tracking each breath of a patient.

12. Should automatically corrects Volumes for leaks and should allow for Tracking changes on a breath to breath basis.

13. Equipment should be useful treatment of critically ill patients/Emergencies.

14. Should be supplied with Nasal & Full Masks, Circuits and Exhalation ports, Standard Accessories, Manual & UPS (30 Min standby time).

TECHNICAL SPECIFICATIONS FOR 4D (LIVE 3D) ECHOCARDIOGRAPHY COLOUR DOPPLER SYSTEM (one No)

A. Description of function: Colour Doppler echocardiography system is required to study the anatomic and hemodynamic abnormalities of the heart and vascular ultrasound.

A highend 4D system is offer live 3D picture of anatomical details of heart and great vessels and better functional assessment

B. Technical Specifications:

1. Top of the line, state of art ,Latest generation high end & Technologically advanced Digital Live 3D Echocardiography system for adult cardiac applications
2. System should have minimum 100,000 digitally scalable channels for simultaneous formation, acquisition and processing of multiple ultrasound beams and has system architecture to process an entire bandwidth of frequencies form 1MHz to 10 MHz System should support pulse coding and pulse shaping technologies. Please mention number of digital channels in technical bid and highlight same in specification sheet.
3. System should have a dynamic range of minimum 200 DB so that variety of patient sizes can be handled without compromise. Please mention dynamic range in the technical bid with supporting specification sheet.
4. System should be capable of supporting second generation LIVE 3D matrix Transducer capable of supporting LIVE 3D image quality on the matrix array transducer with a 3D data processing speed at 64 mega voxels per second. Please mention 3D Data processing speed in technical bid.
5. System should have option for live TEE
6. System should offer Live X-Plane imaging with manipulation of orthogonal plane-lateral, elevation and rotation should be possible. Elevation beam steering should be possible so that ideal en-face views for measurements can be obtained without moving the transducer.
7. System should have Live 3D Echocardiography capability with Color Flow Imaging.
8. System should have extremely high Resolution 2D Imaging, Colour Flow Imaging, M Mode, PW Doppler, CW Doppler, Duplex & Triplex Modes.
9. Should have good Tissue Harmonic Imaging for improved Image quality.
10. Should have the state of the art Transmit Real Time Compound Imaging Technology.
11. Should have advanced Image Processing algorithms to analyse between targets and artifacts so as to sharpen target anatomy and reduce the speckle & artifacts for improved Image quality.
12. Should have Extended field of view Imaging of structures, by continuously scanning & moving the Probe over the area of Interest.
13. Should have advanced Tissue Doppler Imaging with high frame rate acquisition of more than 300 frames per second.

14. Should be able to perform MPR views for Quantification from 3D Imaging on Volume measurements like LV volumes, Ejection fraction from 3D Image, etc.Also should offer measurement of parameters of cardiac dyssynchrony. Should display global LV volume capability in 4D.
15. Should be able to perform advanced quantification measurements like Strain & Strain Rate Quantification. Should Measure the myocardial velocity and derives the strain rate and strain along user-defined M-lines.
16. Should have great ergonomic design, which is comfortable and convenient to avoid user muscle strain & stress injuries. Preferably a lightweight system
17. Should have a ≥20-inch Monitor, preferably a Flat Panel type.
18. Should have onboard workstation for storage and review of all exams, 2D, 3D Images, loops, etc.An offline workstation with similar capabilities of on-board analysis and quantification of 2D and 3D data sets should be offered.
19. System should have DICOM 3.0 print and store service classes with support for modality ,worklis, perform procedure set up, storage commit.
20. System should allow storing of cropped 3D images which can be recalled and recropped later.
21. System should have inbuilt Image Management facility with facility for direct storage of Images and loops in the Hard Disk Drive and also thumbnail review to view & edit Images, loops and also reports.
22. System should have storage facility of images, loops in the hard disk drive of 160 GB or more. System should be able to transfer Images & clips to CD & DVD media.
23. Essential Accessories to be supplied with the machine(one with each System):
    a) Adult Echo Live 3D Echo Transducer with frequency ranging from 1-5 Mhz: one
    b) Vascular Transducer (Linear Array) with frequency ranging from 5-11 Mhz: One
    c) Phased array Transducer with smaller footprint for pediatric use with frequency range from 3-8 MHz: one
    d) Integrated Stress Echo facility to perform Stress Echo exams
    e) Regular adult TEE probe 2D multiplane with colour Doppler: one
    f) Regular paediatric TEE probe 2D multiplane with colour Doppler; one
    g) Latest Pentium PC(off-line workstation) with licensed software for analyzing and quantification of 2D and 3D data sets, CD writer with Image Management Software and colour laser Printer.PC should be offered with a flat panel 17 inch display monitor.
    h) Printer(Inkjet/Laser): 1 No
    i) ECG cable: 1 no
    j) Inbuild CD/DVD writer
    k) Voltage stabilizer: 1 No

l) Thermal printer: 1 no with each probe

m) Compatible offline medical grade UPS with 30 min power backup: one

C. Quantity: 1 nos machine with above mentioned accessories .

D .Environmental factors

1. Shall meet IEC-60601-1-2:2001(Or Equivalent BIS)General Requirements of Safety for Electromagnetic Compatibility. Or should comply with 89/366/EEC; EMCdirective.

2. The unit shall be capable of being stored continuously inambient temperature of 0 -50deg C and relative humidity

3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

E. Power Supply

1. Power input to be 170-270 V AC, 50Hz fitted with Indian plug.

F. Standards, Safety and Training

1. Should be US FDA approved product

2. Manufacturer/Supplier should have ISO certification for quality standards.

G. Documentation

1. User/Technical/Maintenance manuals to be supplied in English.

2. Certificate of calibration and inspection.

3. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

4. List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

5. List of important spare parts, consumable and accessories(including all transducers and live 3D TEE probe) with their part number and costing. Price of consumables, accessories to be fixed for two years from date of installation of machine.

H. Other requirements

1. Model should be latest gereration**.**
2. Should have local service facility.
3. comprehensive warranty for 5 years and AMC/CMC for next five year**s.**
4. Availability of spares to be ensured for minimum 10 years period
5. Demonstration**, if required,** before approval **but working demonstration** after installation **is must**

FOR INTRA AORTIC BALLOON PUMP

Transportable, Compact IABP system.
Fast pneumatics to provide accurate &reliable ventricular support enhancing augmentation & improved after-load reduction. Preferably compressor based system for better drive-gas shuttle speed.
Should have three modes of operation.
Automatic
Semiautomatic
Manual.
System should be capable of automatically selecting appropriate trigger i.e. ECG or pressure and also accurately select the inflation and deflation points, in automatic mode.
In automatic and semiautomatic mode, single ECG trigger should be able to track various ventricular and atrial arrhythmia including VE's, Bigeminy, Trigeminy, Couplets etc. and atrial fibrillation, without any user intervention and still give optimal performance.
Should be able to trigger on 3mmHg of pulse pressure when used in pressure trigger mode.
Single key start-up with auto zeroing on start-up, to make it fast user friendly and easy to use.
Should be able to display at least 03 waveform as ECG, invasive pressure and balloon pressure waveform.
Large detachable display for brighter & very good visibility from a distance in any lighting conditions.
On screen indication for Helium level in the cylinder & battery level for timely intervention and correction.
On screen indication of standby time and should give alarm after 20 mins, to draw user's attention on the system being on standby.
System be approved for use on pediatric patients and pediatric should be supplied with the system.
Optical blood back detect for early for early indication of blood coming into the balloon lumen due to IABC leak.
Should be battery backup of atleast 3 hours.
Should have peripheral vascular Doppler for checking limb ischemia, which is tethered to the main equipment.
PCIABP software which allows to monitor the IABP from any remote location via a modem.
Should have capability to connect on the hospital network.
System should be supplied with the following.
ECG cable with lead wires: 1 set.
Reusable invasive blood pressure transducer 1 no.
Refillable helium cylinder compatible with the IABP system Qty- 3 nos.
Intra aortic balloon catheter for pediatrics, size: 12 cc qty : 1 no.
Intra aortic balloon catheter for pediatrics, size: 10cc Qty : 1no.
7Fr. Sensor catheter.
Warranty should have five years three years with spare and two years without spares.

TECHNICAL SPECIFICATIONS FOR COMPUTERISED STRESS TEST SYSTEM (2 Nos)

Description of Functions: A stress test system is used to detect ECG evidence of exercise induced arrhythmia during physical exercise.
Technical Specifications:
System should acquire and analyze up to 12 leads.
System should run on Window 7/Window XP operating system and should be provided with the computer system with the following configuration: Pentium CPU with DVD, minimum 17" Color monitor; minimum 250 GB Hard drive, Mouse, Keyboard and UPS for the CPU.\
Should provide standard Full Interpretation of Supine ECG with reasoning.
Display of real time 12 lead diagnostic quality ECG waveform, average complexes beat of all 12 leads with superimposed color comparison along with digital value of ST level and slope. It should also display of enlarged complex and should have the facility of dynamic lead selection for maximum ST changes. Display of 1mm graph on the monitor should be similar to the graph on the recording paper.
Automatic detection, display, Storage and review of arrhythmia, Heart Rate, Double Product and METS. It should have online HR METs, and ST running trends available on the screen during exercise.
System should provide risk assessment tools like Stroke and Duke Tredmil score.
System should have ability to manual edit of J & Isoelectric point during exercise. Filters for line frequency and special filters to reduce noise and baseline artifacts without compromising the ECG frequency response.
System should have full disclosure play back, review and storage of patient ECG raw data for unlimited numbers depending upon size of the hard disk. The unit should have the ability to readjust "J-ST" interval measurement $\pm$ 1 m sec points and generate a new report from stored raw ECG data.
System should provide multiple and customizable printing formats as per user's choice on A4 size high resolution thermal printer for online real time printings. It should also be possible to print reports on laser printer.
System must have ECG trigger output to interface with external automatic devices.
Should be supplied with Heavy Duty Imported Treadmill with following features:
Motor of Minimum 3 H.P
Walking surface of minimum 60"
Two Stopping Modes
Emergency Stop Switch
Speed ranging from 0 to 12 mph and grade of 0 – 20% with suitable 3 KVA stabilizer
maximum Weight bearing capacity of 200 Kg
Should be US-FDA approved
Should be provided with a Non Invasive Blood Pressure Monitor which can be programmed to take the blood pressure automatically with each stage

Final reports must be exportable from the system in Word/ PDF.
Original product catalogs with complete technical specifications to be enclosed for main and allied equipments being offered
Should be provided with Electrode fixing Clip to minimize artifacts

Optional:
Stress ECG interpretation
C.Quantity: 1. Main system including Treadmill, Computer (17") with analyzing software :
2 Nos for Each
2. UPS for at least 30 minutes backup: 2 Nos
3. Laser printer : 2 Nos
3. Non Invasive Blood Pressure Monitor: 2 Nos
4. ECG module: 4Nos
5. Patient cable with Electrode fixing Clip: 4 Nos
6. Good quality computer table(Durian/Godrej etc) for the system: 2 Nos
8. Pouch for ECG module: 2 Nos

D .Environmental factors

1. Shall meet IEC-60601-1-2:2001(Or Equivalent BIS)General Requirements of Safety for Electromagnetic Compatibility. Or should comply with 89/366/EEC; EMCdirective.
2. The unit shall be capable of being stored continuously inambient temperature of 0 -50deg C and relative humidity
3 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

E. Power Supply

1. Power input to be 170-270 V AC, 50Hz fitted with Indian plug.

F. Standards, Safety and Training

1. Complete systems including Treadmill Should be US FDA approved product
2. Manufacturer/Supplier should have ISO certification for quality standards.

G. Documentation

1. User/Technical/Maintenance manuals to be supplied in English.
2. Certificate of calibration and inspection.
3. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
4. List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
5List of important spare parts consumables and accessories with their part number and costing should be provided. Price of consumables, accessories to be fixed for two years from date of installation of machine.

H. Other requirements

Model should be latest gereration.
Should have local service facility.
comprehensive warranty for 5 years and AMC/CMC for next five years.
Availability of spares to be ensured for minimum 10 years period
Demonstration is to be given before approval, if required. Working demonstration after installation is must.

ACT Machine

Equipment for assessment of Activated clotting time (ACT)

It should be compact & portable for bed- side testing

It should have inbuilt mechanism to heat the cartridge.

Range 37.0+2 Degree C.

It should require less than 2ml of blood for each test.

It should be capable to display two reports at one time and should display average reading for these tests.

100 cartridges for each test to be supplied with each machine.(Total 500 cartidges with 5 machine)

There should be one year guarantee of the machine

Price of spares/accessories/ consumables/ disposable etc should also be quoted separately and the price should be fixed for four year

SPECIFICATION OF VOLUMETRIC INFUSION PUMP

The Volume Controlled peristaltic Infusion Pump having at least following major specifications:

a) Range : 1~1000 ml/hr. in 1 ml increments and 0.1~100 in 0.1 ml/hr.

increments in Micro Infusion mode

b) Infusion Time: 1 ~ 96 hours in increment of 1 minute.

c) It should have display of drug names.

d) It should have volume delivered indication

e) Should have individualized alarms for -

i) Low Battery Pre Alarm and Alarm.
ii) Adjustable Occlusion level 100 ~ 900 mmHg in increment of 50 mm Hg.
iii) Drive error
iv) Air bubble detector (adjustable sensitivity)
v) Completion / End of Infusion
vi) Door Open
vii) Protection against free flow. Occlusion Check System must be integrated
viii) Unconfirmed Settings
ix) Mains Power Failure
x) Infusion Line Disconnection Alarm.

f) Should have Keep Vein Open(KVO) function on completion with least volume : minimum 3 ml/hour or adjustable.

g) Should have rechargeable NiMH type of battery having long life of about 5 hours @ 100 ml/hr. or more.

h) Should be light weight not more than 3 Kg.

i) Should operate on mains cum battery with input Voltage AC 240 Volts 50 Hz.

j) Should store history of 750 last dated events.

k) Should have variety of infusion modes such as Ramp-up / Ramp down, Sequential, Bolus, secondary etc. with last setting save at power ON.

l) Should be compatible with all standard IV Sets.

m) Should display the Volume to be infused, Infusion Duration, Infused Volume, Flow Rate, Present Pressure in the IV Set System, Alarm limit selected for Occlusion alarm, Occlusion pre alert by pressure increase indication, Visual Indication of Occlusion upstream or downstream etc.

n) There should be a provision of LOADING dose at the beginning of infusion.

o) There should be a provision of BOLUS delivery.

p) There should be facility to LOCK the keyboard.

q) Should have facility to program the PAUSE infusion time with indication after the programmed time is elapsed.

r)The product offered should be USFDA/European CE approved with certificate to be submitted.

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Dept of Pathology.

TRINOCULAR MICROSCOPE WITH CAMERA WITH COMBINED VIDEO DISPLAY AND IMAGE ANALYSER	
Complete workstation for handling immunofluorescence and Cytogenetic applications i.e. Karyotyping & FISH with following features:	
Required Specifications:-	
Microscope Stand:	Microscope basic stand with LED light indicator, 12V100 watt Halogen light, at least 8 position Fluorescence filter turret, built in blue and ND filters.
Observation Tube:	Trinocular Observations tube with inclination angle 30 degree with 22mm field of view. Observation of 100% light path in the camera as well as in the observation tube. Facility of 20%/80% to eye and camera should also be available.
Nosepiece:	Sextuple DIC upgradable nosepiece.
Condenser	Achromat Swing Out Condenser
Eyepieces	Paired Widefield Eyepieces of 10X with minimum field of view about 22mm or better. Both sides focusable & adjustable diopter setting.
Illumination	12V100W transmitted Halogen Illumination.
Objectives	Plan Semi Apochromat 10X Objective. Plan Semi Apochromat Apochromat 20X Objective. Plan Apochromat 40X/0.90 Objective Plan Apochromat 100X/1.40 Objective.
Stage	X-Y Mechanical Stage with facility of handling two slides at a time.
Fluorescence Attachment:	It should have at least 8 positions or better reflector turret mount for mounting different filter cubes.
Fluorescence Illumination:	High Intensity Mercury/ Metal Halide illumination for minimum 1500/2000 hrs life.
Fluorescence Filters:	Complete Fluorescence filter set for Immunofluorescence and FISH applications Single filter Cube for DAPI (b) Single Filter Cube for FITC, (c) Single filter Cube TRITC. (d) Dual filter Cube (DAPI/FITC), and (e) Triple filter Cube (DAPI/ FITC/ TRITC) with Multiband pass Emitter & Mirror. DAPI (Ex.367, Em.452); FITC (Ex. 497, Em. 524); TRITC (Ex. 599, Em. 588) All the filters should be narrow band pass filters.
Monochrome Cooled CCD Camera	

Sensor type	CCD
Sensor diagonal	Diagonal 11 mm(Type 2/3)
Indication of lens category to be used	C- Mount
Resolution	1392 x 1040 pixel
Pixel Width	6:45 ^{1}m
Pixel Height	6:45 ^{1}m
Readout type	Progressive scan
Transfer type	Interline transfer
Maximum frame rate	17 frames per second
Interface type	Gigabit Ethernet
Signal to noise ratio (SNR)	>65db

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The specifications have been modified and revalidated

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Softwares for Cytogenetics Applications	• Database Management Software – A modern paperless laboratory design management software. Manage data, compare chromosome and produce comprehensive reports to ensure optimal chromosomal analysis statistical analysis and cross-case comparison of all the data. As a powerful search tool to filter specific cases and cells by any field and /or subject. A flexible image gallery accommodates viewing of all case images. • Software for Karyotyping analysis – Advanced automation offering background uniformity correction, automatic segmentation of touching chromosomes, optimized image enhancement, contrast and band sharpness, 'Smart' tool like a single "Magic tool" - an all –in-one multi function tool that eliminates the need for switching between other functions. • FISH Software – Automated Multi-layer imaging. Automatic image exposure and enhancement, together with the auto-conversion of image sequences at various focal planes (3D Z- Stacking). Automatic background, contrast, brightness and sharpness adjustments, to enable optimal display of the faintest signals in a few seconds. Ability for full karyotyping support with unique band enhancement and signal sharpening. Integrated quantitative signal and objective analysis module. Cell or object segmentation, followed by morphology and intensity analysis to extract the exact data required. Optionals : • mCounter – Counting by intuitive use of the mouse and keyboard replaces existing lab counters and enables to easily spot count for numerical changes or classify cells according to their signal pattern, instantly providing statistics for customized reports. • Multi Species support: Dynamic karyotype table to fit any species type. A predefined library for multiple species and capability to add custom ideograms of animal or plant species.
Workstation	Compatible latest branded computer with at least 4GB Ram, 1TB HDD, Quad Core/ latest high speed processor, 32 inch TFT Screen, Compatible online UPS with 30 minutes backup to support the entire system.
Secondary Hard Disk	Internal Secondary Hard Disk capable or mirroring and backing up Data
Compliance	Point wise technical compliance statement to be attached. (Mentioning the page No of quotation and Catalogue).
Power Supply	For standard Indian conditions.
UPS	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
ISO Certification	Manufacturer/ supplier should have ISO Certification for quality standards should be FDA, CE, UL or BIS approved products.
Manuals	User/Technical/ Maintenance manuals to be supplied in English.
Certificate	Certificate of calibration and inspection from factory.
pares and ccessories	List of important spares and accessories with their part number and costing.
Warranty nd CMC	Warranty of 2 years followed by CMC of five years.

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BIOSAFETY CABINET

The basic equipment shall comprise of exhaust HEPA/ULPA filter for supply air, negative pressure plenum exhaust, front opening sash with 7 to 10 inches opening, suitable blower assembly, necessary lighting indicators and controls for the cabinet. The equipment should be mounted on stand with wheels / leveling feet. The exhaust plenum should be under negative pressure, hard ducted to outside. The dedicated exhaust ducting system should be connected via a canopy connection to outside.

1) Cabinet should be microprocessor controlled Type II B2 and 100 percent exhaust.
2) Main body, side and front panel should be made of electro-galvanized steel or mild steel along with rust free stainless steel working space, oven backed epoxy powder coated finish.
3) Sound Emission 60-65 dBA .
4) Internal dimension (WxDxH) should be approximately 36" x 22" x 26" (3ft) and approximately 50" x 22" x 26.4"(4ft) Interior work area of a single piece of class 304 stainless steel
5) Switches and indicators: Individual switches and indicator lamps for blower motor, fluorescent lamp and UV lamp.
6) The motor should be able to automatically adjust the airflow speed without the use of a damper.
7) The cabinet must incorporate two brushless DC / ECM Motors.
8) Pre-filter, down flow and exhaust filter- HEPA / ULPA with rated efficiency of 99.995% (or better) at 0.3 microns to provide product protection of Class 100 as per EN 1822.
9) The exhaust blower should be able to continue to operate in case supply blower stops working. The supply filter should turn off in case of failure of exhaust failure.
10) The exhaust should include a leak-tight duct, a leak proof damper in the duct above the cabinet to allow closure for gaseous decontamination, a separate damper to allow air flow control and adjustment, and an external exhaust fan as the final system component
11) Programmable UV light to allow specific exposure time range from 0 to 24 hours.
12) The opening sash to be made of at least ¼" tempered safety glass with no sharp edges.
13) The front of the cabinet to be 7 to 10 degree angled to avoid glare on the window.
14) Frameless, shatterproof sash with programmable UV lights which shuts-off on sash opening
15) Inflow Air flow velocity should be 100-110 fpm, 100% exhaust, efficiency should be >99.995% at 0.1 micron to 0.3 micron.
16) Real time display of inflow and downflow velocities on microprocessor controlled LED.
17) 2 choke-less fluorescent lamps (with light intensity of at-least 1000 lux or more over entire working area), 2-3 service valves for gas inlet, 2 electrical duplex outlet (NON GI/I) each of 5 ampere on both sides of cabinet interior wall.
18) The Bio safety cabinet should have dual side wall with negatively pressurized interstitial space.
19) Germicidal UV lamp >40 microwatt/sq.cm 250-255 nm over the entire work surface.
20) Electrical protection: the equipment should be fitted with earth leakage circuit breaker (ELCB)
21) The cabinet should be supplied with 5 KV servo stabilizer.
22) Ergonomic Lab Chair should have laboratory grade consruction.
23) Must be provided with calibration and validation certificate.

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GAINI GAIND

24) The Biosafety Cabinet should be tested on site and comply with the following requirements

a. Down flow velocity and Volume Test.
b. Inflow Velocity Test.
c. Airflow Smoke Pattern Test.
d. HEPA Filter Leakage Test.
e. Cabinet Leakage Test.
f. Electrical Leakage: Ground Circuit Resistance and Polarity Test
g. Lighting Intensity Test.
h. Vibration Test.
i. Noise Level Test.
j. UV Lamp Intensity Test.
k. Alarms and indicators test (if provided).
l. The differential pressure gauge should be calibrated.
m. All the tests have to be conducted by an Accredited Agency which shall then issue "Test Certificate" and send it to the respective consignees. Subsequently, the tests shall be conducted (after installation at the respective consignee's Laboratory site) by the supplier and 'Certificate of Satisfactory Installation' shall be obtained from the respective consignees

25) Five years comprehensive warranty supported with yearly calibration and certification.
26) SFDA Certified to YY069, 4ft/1.2m, EN 12469 Compliant
27) IEC 1010-1 UL and Electromagnetic directive 89/336/EEC certification.
28) NSF / ANSI 49, ETL, CE Certification
29) The manufacturing firm should be ISO certified.
30) Spare accessories – HEPA filters (one)-dimensions same as above, Pre-filters (two). The price to be quoted inclusive of spares given in specifications.
31) On site demonstration required before approval.

Certified that the specifications are broad based, general in respect to the requirement and not suit to any particular firm/brand.

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BIO-CHEMISTRY AUTOANALYSER 16 CHANNEL

A. MAIN CHEMISTRY ANALYZER UNIT

1. Fully automated, Discreet, Multi-channel, Random access clinical chemistry analyzer with ISE with minimum 10 open channels .
2. Assay modes: photometric end point, kinetic, indirect ISE, bichromatic and immunoturbidimetric.
3 Throughput: at least 700 or more tests per hour with ISE out of which at least 400 should be photometric tests**.**
4 Sample type- plasma, serum, urine, CSF and other fluids analysis facility.
5. Sample loading: Atleast 60 sample positions with continuous loading.
6. Onboard parameter test: Minimum 40 onboard photometric parameters.
7. The system should be able to take samples from primary / secondary tubes, sample cups.
8. System should have automatic rerun, automatic reflex testing and have facility for continuous loading of stat samples without interrupting the routine run .It should have capacity to detect bubble, viscosity check, hemolysis and low sample volume.
9. Photometer: multi-wavelength diffraction grating based photometric system with wavelengths ranging from 300-800 nm.
10. Lamp source: halogen/xenon lamp with life of atleast 800 hours. One extra lamp should be provided free of cost with the equipment besides the normal standard accessories.
11. Bar Code Reading facility for samples and reagents.
12. Sample and reagent probe: Separate probes for sample and reagents.
13. Sample probe: probe must have liquid level detector/sensor and independent washing facility. Also probe crash detection and sample clot detection facility should be there. It should use <25µl sample in 0.1µl increment.
14. Reagent probe: probe must have liquid level detector/sensor and independent washing facility with probe crash detection facility.
15. Reagent compartment should be refrigerated with temperature 4-8^{o}C or better and humidity control.
16. Cuvettes: Permanent hard glass / quartz cuvettes/plastic cuvettes with onboard washing facility or disposable cuvettes.
17. Should have pre-& post- auto dilution of samples and re-run capability for out of range samples. Also there should be facility for serial dilutions in multipoint calibration.

B) Computer system

18. Personal computer having windows XP , Pentium IV processor, DVD –RAM , with monitor, keyboard and printer compatible with normal A-4 size paper.
19. Quality control: real time, individual and cumulative quality control with automatic QC programming with L-J graphs. Printout of QC charts & reports.
20. Software:

i) Compatible, programmable windows based user friendly software with comprehensive data processing and management system.
ii) Graphical user interface software for unidirectional and bidirectional communication.
iii) LIS and HIS capability. Full technical support to link it to HIMS should be provided. It should also be able to link to company's teleservice functioning for QC data / calibrators data downloading.
iv) Complete backup of the database for calibration, control and patients sample result.
v) At least 10,000 patient result storage and multitasking facility on computer.

C) <u>Water purification unit</u>:

21. All vendors should supply the compatible water treatment plant for the instrument based on RO or any latest technology, along with necessary plumbing and adequate size storage tank. They will have to check the hospital's water quality before supplying water plant. It would be the responsibility of the vendor to maintain the water quality for the equipment irrespective of the quality of the feed water. The vender should also give separate prefilteration unit if required.
22. All related plumbing for whole instrument with suitable diameter pipes for input as well as drain water should be done by the company. Also suitable stand for water purification system and storage tank should be provided.

D) <u>UPS</u>

23. Equipment should be supplied with compatible online UPS for entire machine with atleast 60 min battery backup.

E) Other General Conditions

24. Should have US FDA / European CE approved certification preferably US FDA.
25. **On-site training:** Comprehensive and full training of all users by suppliers for operating the equipment on site.
26. The system must be supplied with necessary pre-requisites and start up kits for installation and training free of cost with required calibrators, controls and other liquid consumables for 3 months @200 tests/day for the following parameters: glucose, urea, creatinine, sodium, potassium, total bilirubin, AST, ALT, Alkaline phosphatase.
    Calcium, phosphorus @ 50 tests / day.

CK, CK-MB, LDH, direct bilirubin and amylase @25 tests/day .

Calibrators for all the above tests in suitable volume for above mentioned workload, Controls for all the above tests (normal and abnormal) in suitable volume for above mentioned workload and any other liquid consumables must also be provided for 3 months.

The technical bid document must include the following details in a tabulated form:

a. Name of the test
b. Kit size
c. Number of kits likely to be used per month as per the workload depicted above.

Depending on the workload mentioned above, price quotation of individual test parameters , kit/pack size indicating the number of tests per kit, rate per kit, number of kits required per month and total cost of the kits per month, per year and per five years must be made by the vendor.

These prices of kits will be frozen for 5 years.

FOR PRICE COMPARISON PURPOSE : The total cost of these reagents will be added as per formula below to the equipment cost and CMC cost from $6^{th}$to 10 years.

FORMULA : The price per test X number of tests/day as mentioned above X 365 days X 5 Years .

This formula must be used for purpose of calculating the kit prices quotation in the price bid and evaluation of the same. The bidders must also quote the prices of any other reagents, consumables(like lamps, electrodes), disposables, buffers and wash solutions for the tests listed above for the required number as mentioned above. All these rates shall be considered for price bid evaluation (The prices will be frozen for 5 years). Any consumable not quoted in this table but essential for performing the above listed tests shall have to be supplied free of cost for the entire workload during the validity of the contract. The rate will be reviewed after 5 years.

27. Further in addition to the above tests, the firm should provide details of all other parameters, which can be done on the analyzer, quoted by the bidder and are manufactured by the bidder in terms of kit, number of tests per kit and rate per kit in a tabulated form for all the parameters. **These rates will also be frozen for five years. However, rates for these parameters will not be used for price bid evaluation.**

28. The manufacturer should provide 2 spare printer cartridges free of cost. Printer should be such that it's cartridges are easily available.

29. Models quoted should be latest on production line of manufacturer and manufacturer's certificate for this should be provided.

30. Logbook with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the Hospital technician and company service engineer should be clearly spelt out.

31. Complete circuit diagram and service manual and operating manual must be provided. User/technical/maintenance manuals to be supplied in English. Supplier must provide original documentary proof of the date and place of manufacturing of supplied equipment.

32. Certificate of Traceability for calibrators, traceable to national/international reference standards to be submitted at the time of pre bid meeting.

33. Manufactures should also be manufacturing the reagents/kits needed for the machine.

34. Assured supply of spares and consumables for 10 years at least.

35. Backup analyzer of the all the same specifications with same throughput will have to be provided along with the main equipment. Same reagents packs should be used on both the analyzers.

36. Facility for Onsite Up-gradation to increase the through put .

37. Downtime should be less than 5% of the total running time of the machine which can be calculated at the rate of 24hrs/ day running time per equipment. ***Maximum down time for both equipments at a stretch should not be more than 6 hrs. During this period the vendor will be responsible for the samples to be analyzed by a NABL accredited lab without any financial burden to the institute.**

38. Installation and satisfactory functioning reports of atleast last 3 years.

39. Should be capable of up gradation and/or onsite integration if required.

40. Site preparation while installation apart from plumbing etc to be done by the firm.

41. Comprehensive warranty for 5 years and next 5 years CMC after warranty which will include all above A, B, C and D components with all consumables , batteries, filters, cells , bulbs etc.

42. Compliance Report Performa (Mandatory) : Compliance report to be submitted in a tabulated and point wise manner clearly saying 'Yes/No' in the Compliance Proforma.
In the absence of compliance report , tender will be summarily rejected. The compliance report should be signed by Authorized signatory of the Manufacturer / Supplier.

ABG & Electrolytes Analyzer

A fully automatic, fast, precise blood gas analyzer with following features:

1. Measured parameters: Routine parameters : pH, pCO2, pO2, Cl, Na, K, Ca, Hb , glucose, lactate.

   Special parameters: SaO2 with co-oximetry, creatinine

2. Calculated parameters: Std. pH, pCO2, pO2, aH+, HCO3, Hct, Std.HCO3, O2 Sat, BE, BEecf, BB, O2 content, TCO2.

3. Sample size: upto 150uL

4. Throughput: approx. 30 samples per hour for all parameters.

5. Readout time: Less than 1 min.

6. Printer: Suitable in-built printer

7. Calibration: Automatic in cycle system

8. Provision for auto QC facility should be available.

9. Display: Digital display on the screen

10. Electrodes: Maintenance free/low maintenance with shelf life not less than 1 year. Electrode replacement (free of cost) should be included in the warranty period.

Electrodes should be individually replaced(and not as single pack/cassette/ cartridge together).

11. Memory: More than 500 patients memory

12. Should have USFDA/European CE approved product, preferably US FDA.

13. Manufacturer must be manufacturing reagents/kits needed for the machine.

14. The firm should quote the prices of all consumables and the prices will be frozen for five years. The system must be supplied with necessary pre-requisites and start up kits for installation and training free of cost with required calibrators, controls and other liquid consumables for 3 months @100 samples/day for all the routine parameters such as pH, pCO2, pO2, Cl, Na, K, Ca, Hb , glucose, lactate .

Calibrators for all the above tests in suitable volume for above mentioned workload, Controls for all the above tests (normal and abnormal) in suitable volume for above mentioned workload and any other liquid consumables must also be provided for 3 months.

FOR PRICE COMPARISON PURPOSE : The total cost of the reagents for routine tests will be added as per formula below to the equipment cost and CMC cost from 6th to 10 years.

FORMULA : The price per sample for routine parameters X 100 X 365 days X 5 Years .

This formula will be used for purpose of calculating the cost and price bid evaluation of the same.

The bidders must quote the prices of other consumables required for the special parameters (apart from the routine parameters mentioned) and these prices will be frozen for 5 years. Any consumable not quoted in this table but essential for performing the above listed tests shall have to be supplied free of cost for the entire workload during the validity of the contract.

15. Five years warranty & 5 years post warranty CMC should be provided. The prices of CMC from 6th to 10th year will be included for price comparison along with equipment cost.

16. Compliance Report Performa (Mandatory) : Compliance report to be submitted in a tabulated and point wise manner clearly saying 'Yes/No' in the Compliance Proforma.
In the absence of compliance report , tender will be summarily rejected. The compliance report should be signed by Authorized signatory of the Manufacturer / Supplier.

Broad Based Specification of Fully Automated Coagulaometer

- Fully Automated Stand alone Coagulometer.
- Should be a BENCHTOP Analyzer thereby minimizing space requirements.
- Should be able to perform Clotting, Chromogenic and Immunological tests.
- High Throughput and rapid processing of STAT samples without the need to interrupt the analyzer.
- Should be a random, continuous analyzer with continuous loading of samples.
- The throughput should be Minimum 100 PT tests/Hr.
- Storage of Calibration and their curves.
- Windows Compatible Software.
- Should be a touch screen analyzer.
- More than 30 samples on board.
- More than 20 reagents on board.
- Inbuilt Barcode for Samples.
- External Barcode for Reagents.
- The Analyzer should have LIS Capability.
- Should have more than 250 cuvettes onboard capacity.
- Should have patient data base capacity of atleast 900 samples.
- Patient Results Archiving.
- System should have Electronic Security,
- In built maintenance program should be present.
- Following Facility should be available as optional:
  a) Facility of Storage of Patient curves.
  b) Should have Automatic Rerun and Reflex Programmes.
  c) Should have an option for running parallelism for inhibitor studies.

- Equipment should be able to perform following Parameters:

  PT, APTT , Fibrinogen , , Free Protein S , Protein C Chromogenic Heparin LMWH and UFH , AT III, Plasminogen, Anti Plasmin, vWF Antigen ,vWF Activity ,DvvRT Screen & Confirm, Silica Based LA, D Dimer (FDA for VTE Exclusion), APCR- V, Homocystine

- Should provide calibration Certificate for the Hardware Traceable to National or International Calibration Agency.
- Consumables for running of 2000 tests of PT,APTT to be provided along with the analyzer.
- Compatible UPS with a 30 min supply backup to be supplied along with the Analyzer.
- 2 year warranty and after warranty 5 Year CMC which will be included in the price comparison.
- Manufacturer /supplier should have ISO Certification for quality standards, Shluld be FDA, CE, UL or BIS approved products.
- User/Technical /Maintenance manual to be supplied in English,
- Certificate of calibration and inspection from factory.
- List of important spares and accessories with their part number and costing.
- Penality clause: Down time Penalty Clause: if the equipment is not repaired within 04 days of informing the company, 2% of the total cost will be charged as Penalty for very 07 days delay.
- Rate of consumables and controls to be fixed for 05 years.
- One back up unit shuld be provided along with the equipment.
- Stand by technical operator for 24 x 7 operations for 05 years should be provided gsineeded.
- Demonstration of equipment by all the participating firms before finalization of technical specification.
- Installation and demonstration at the place of working.

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SPECIFICATIONS FOR CYTOSPIN

1 Description of Function
A cytocentrifuge, which operates at a speed of between 200 and 2,000 rpms, forces the cells from a suspension onto a microscope slide as a blotter simultaneously absorbs the suspension medium. Cytoevaluation is evaluation under microscope.
2 Operational Requirements
Latest Model Centrifuge for separation of cells found in body fluids & for thin prep Liquid base cytology Cells are directly attached in a monolayer to a microscope slide by means of centrifugal f and a slide and funnel device.
System made for minimum cell loss.
Fully automatic with digital display and alarm system.
3 Technical Specifications
Programmable range of speed for different types of fluids. (approx. up to 2000-2500 RPM)
Running time : 1-99 mts
Number of specimen- 10-12 in one cycle.
Memory to store 20 preset procedures.
There should be a membrane keypad with LCD/LED Display of Time, Speed and program protocols.
Audiovisual alarm for out of balance, outside speed tolerance or if the lid is not properly locked. The system will not run if the lid is not locked properly.
Autoclavable rotor.
Sturdy cytoclips.
4. System Configuration Accessories, spares and consumables
System as specified-
(1 case each)consisting of
1 ml fluid chamber – 1
1 ml filter paper –1
1ml base holder – 1
1 ml chamber cap- 1
6 ml fluid chamber-1
6ml gasket –1
6/12 ml base holder –1
6/12 ml chamber cap-1
12 ml fluid chamber –1
12ml gasket –1
All standard Accessories 1 Set Extra
All consumables required for installation and standardization of system to be given free of cost.
5 Environmental factors
The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%
6 Power Supply
Power input to be 220-240VAC, 50HZ fitted with Indian plug
Resettable over current breaker shall be fitted for protection

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Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)
UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7 Standards, Safety and Training
Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001applicable to manufacturers and service providers that perform their own design activities.
Should be compliant with IEC 61010-1:(or any international equivalent eg EN/UL 61010) covering safety requirements for electrical equipment for measurement control and laboratory use
Should be FDA , CE,UL or BIS approved product
Comprehensive training for lab staff and support services till familiarity with the system.
8 Documentation
User/Technical/Maintenance manuals to be supplied in English.
Certificate of calibration and inspection.
List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
List of important spare parts and accessories with their part number and costing.
Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/ manual, will not be considered.

The specifications have been modified and revalidated

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LAB REFRIGERATORS
1. Capacity (as per user requirement) 300-380 Litres.
2. Temperature 2-8° C.
3. Preferably roller or caster mounted
4. Adjustable shelves.
5. Battery backup for display and alarms.
6. Durable rust free exterior.
7. Durable interior.
8. Control panel with temperature alarm, on/off switch and digital thermometer.
9. Interior lighting, auto or manual defrosting arrangement.
10. Adequate circulation of air to ensure even cooling.
11. Door with lock.
12. Control panel with temperature alarm, ON /OFF switch with power on indicator, digital thermometer, temperature display.
13. Electronic automatic temperature control,
14. Operable at 220 V, 50 Hz, single phase AC supply.
,15. Compressor unit to be hermetically sealed with guarantee for at least five years.
16. Training of laboratory staff for the purchased equipment.
17. Availability of spares/ disposables for at least 10 years.
18. List of users and satisfactory report of quoted model from reputed institute preferably Government institute/ hospitals.
19. Should have all the accessories required for the functioning of the equipment.
20. CE / ISI mark or other equivalent quality certification.
21. All electrical peripherals required for smoothes functioning e.g. voltage stabilizer provided with the equipment.

Acceptable (Tendered by HSCC) dt 4.4.16

19/4/16

19/4/16

4.4.16

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ELECTRONIC BALANCE (HIGH END ANALYTICAL) (200g / 0.1mg)

Description of Function

Electronic Balance is required for precision weighing of Lab samples.

Operational Requirements

 Microprocessor based single pan Analytical Balance with High accuracy & precision is required

 Reading of the weight by digital display.

Technical Specification

a) Weigh accurately up to 3rd decimal place

b) Auto self-calibration facility

c) Auto zero Setting

d) One touch calibration

e) Weighing capacity upto 1000 – 1200 gm.

f) Repeatability and readability: 0.1 mg

g) Stabilization time < 5 second

h) Adjustment weight (Int. wt.) 60gm

j) Liquid Crystal Display (LCD) for display

Environment Factors :

Shall meet IEC 60601 – 1-2 : 2001 (Or Equivalent BIS) General requirements of safety for Electromagnets of safety for Electromagnetic Compatibility.

The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C & relative humidity of 15 -90%

The unit shall be capable of operating in ambient temperature of 20 -30 deg C & relative humidity of less than 70%.

Power Supply

a) Power input to be 220-240VAC, 50Hz.

b) UPS of suitable rating with voltage regulation with 60 minutes battery backup.

c) Resettable over-current breaker shall be fitted for protection.

Standards, Safety and Training

Should be FDA or CE or UL or BIS approved product.

Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450.

Should be complaint to ISO 13485 : Quality Systems – Medical Devices – Particular requirements for the application of ISO 9001. Applicable to manufacturer & service providers that perform their own design activities.

Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)
UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7 Standards, Safety and Training
Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001applicable to manufacturers and service providers that perform their own design activities.
Should be compliant with IEC 61010-1:(or any international equivalent eg EN/UL 61010) covering safety requirements for electrical equipment for measurement control and laboratory use
Should be FDA , CE,UL or BIS approved product
Comprehensive training for lab staff and support services till familiarity with the system.
8 Documentation
User/Technical/Maintenance manuals to be supplied in English.
Certificate of calibration and inspection.
List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
List of important spare parts and accessories with their part number and costing.
Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/ manual, will not be considered.

The specifications have been modified and revalidated

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