AMENDMENT No – VIII **Dated 07.06.2016**

Subject: Amendment to the tender Enquiry Document

Ref: Tender Enquiry No.: HSCC/SJH/Med. Eqpt./14 dated 04.04.2016

Existing as :

Sl. No.	Description	Schedule
i.	Closing date & time for receipt of Tender	**07.06.2016, 1430 hrs IST**
ii.	Time and date of opening of Techno – Commercial tenders	**07.06.2016, 1500 hrs IST**

To be read as :

Sl. No.	Description	Schedule
i.	Closing date & time for receipt of Tender	**15.06.2016, 1430 hrs IST**
ii.	Time and date of opening of Techno – Commercial tenders	**15.06.2016, 1500 hrs IST**

Existing as:

NOTICE INVITING TENDERS (NIT) - On E-TENDER BASIS

S. No.	Item	Qty./Requirements	EMD (INR)
7	Intra Aortic Balloon Pump	3 no. for Cardiology Deptt. of Super-Specialty Block	2.40,000.00
14	ABG & Electrolyte Analyzer	1 no. in Cardiology Deptt. + 3 nos. for CTVS Deptt. + 2 nos. for Pulmonary Medicine & Sleep Lab. Deptt. of Super-Specialty Block = 6 no.	96,000.00
15	Coagulometer Automated	1 no. in Pathology Lab. of Emergency Block	40,000.00

To be read as:

NOTICE INVITING TENDERS (NIT) - On E-TENDER BASIS

S. No.	Item	Qty./Requirements	EMD (INR)
7	Intra Aortic Balloon Pump	3 no. for Cardiology Deptt. of Super-Specialty Block + **1 No for Pulmonary Lab Medicine of Super Specialty Ward = 4 Nos.**	**2,80,000.00**
14	ABG & Electrolyte Analyzer	1 no. in Cardiology Deptt. + 2 nos. for Pulmonary Medicine & Sleep Lab. Deptt. of Super-Specialty Block + **1 No for Biochemistry Lab of Emergency Block = 4 Nos.**	**50,000.00**
15	Coagulometer Automated	1 no. in Pathology Lab. of Emergency Block + **1 No for CTVS in SSB Block = 2 Nos.**	**70,000.00**

Section – VIII

TECHNICAL SPECIFICATIONS AMENDMENTS

Item No. 2 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 0.3mm^2 (small) & 0.6mm^2 (large) to be provided.
B	Anode heat storage capacity should be more than 250KHU.
C	**Amended as** Motorized Iris Collimator 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	**Amended as:** CCD Camera with a progressive scan sensor of 1K x1K Medical Grade.
C	**Amended as**: The acquisition should be made at 12 bits or more.
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.

Others

	Tender Specs.	**Amended as**
1.	As per Clause No. 21. Terms and Mode of Payment under special Instructions to tenderers.	Payment terms as in shape of Inland Letter of Credit for Indian manufacturer may also be incorporated.
2.	New guidelines of ELORA in order to initiate procurement permission by the department well in time.	Already incorporated.

ITEM No. 3. Hemodialysis Machine with SLED and Hemodiafiltration Facility

Point Deleted: Portable reverse osmosis (RO) water treatment plant for dialysis.

ITEM No. 5. SPECIFICATION FOR NON INVASIVE VENTILATOR

1. **Amended as**: Modes of Operation: Volume Control-SIMV, Pressure Control, Pressure Control-Assist, CPAP with Pressure support, Volume Assured mode, Apnea ventilation. Tidal Volume Setting 100 ml -2000ml

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. **Amended as:** Should be supplied with Nasal & Full Masks, Circuits and Exhalation ports, Standard Accessories, Manual & Inbuilt battery backup of at least 60 Min.

New Point added: should be run on compressed air source /turbine and low pressure oxygen also.

ITEM No. 6. 4D (LIVE 3D) ECHOCARDIOGRAPHY COLOUR DOPPLER SYSTEM

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. **Amended as :-** System should have option for live 3D 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. **Point Deleted**: 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) **Point Deleted** :- Voltage stabilizer: 1 No

l) **Amended as :**Thermal printer: 1 no

m) **Amended as :** Compatible online 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 years.
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**

ITEM No. 8.

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.
Amended as: System should provide multiple and customizable printing formats as per user's choice on A4 size high resolution 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
Point Deleted : 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 for the pc system and printer: 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.

ITEM No. 10.
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) **Amended as**: low battery and battery empty alarm not low battery pre-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) **Amended as:** -NiMH should be changed to NiMH/Li-ion as most of the companies provide the Li-ion type of battery and also NiMH type of battery is an obsolete one.

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) **Point Deleted**:-

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.

Item No. 11.

TRINOCULAR MICROSCOPE WITH CAMERA WITH COMBINED VIDEO DISPLAY AND IMAGE ANALYSE

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:	**Amended as**: It should have at least 8 positions or better reflector turret mount for mounting 5 or more filter cubes.
Fluorescence Illumination:	**Amended as:-**200 or more wattage high intensity mercury /metal halide illumination for minimum 1500/2000hrs 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.

<table>
<tr><td>onochrome Cooled CCD Camera</td><td>
<table>
<tr><td>Sensor type</td><td>CCD</td></tr>
<tr><td>Sensor diagonal</td><td>Diagonal 11 mm(Type 2/3)</td></tr>
<tr><td>Indication of lens category to be used</td><td>C- Mount</td></tr>
<tr><td>Resolution</td><td>1392 x 1040 pixel</td></tr>
<tr><td>Pixel Width</td><td>6:45 ^{1}m</td></tr>
<tr><td>Pixel Height</td><td>6:45 ^{1}m</td></tr>
<tr><td>Readout type</td><td>Progressive scan</td></tr>
<tr><td>Transfer type</td><td>Interline transfer</td></tr>
<tr><td>Maximum frame rate</td><td>17 frames per second</td></tr>
<tr><td>Interface type</td><td>Gigabit Ethernet</td></tr>
<tr><td>Signal to noise ratio (SNR)</td><td>>65db</td></tr>
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</td></tr>
<tr><td>Softwares for Cytogenetics Applications</td><td>
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.
</td></tr>
<tr><td>Workstation</td><td>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.</td></tr>
<tr><td>Secondary Hard Disk</td><td>Internal Secondary Hard Disk capable or mirroring and backing up Data</td></tr>
<tr><td>Compliance</td><td>Point wise technical compliance statement to be attached. (Mentioning the page No of quotation and Catalogue).</td></tr>
<tr><td>Power Supply</td><td>For standard Indian conditions.</td></tr>
</table>

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.
Spares and accessories	List of important spares and accessories with their part number and costing.
Warranty and CMC	As per Tender Terms & Conditions

Item No. 14.

ABG & Electrolytes Analyzer

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

1. **Amended as** Measured parameters: Routine parameters : pH, pCO_2, pO_2, Cl, Na, K, Ca, Hb , glucose, lactate.

   Special parameters: SaO_2 with co-oximetry,

2. Calculated parameters: Std. pH, pCO_2, pO_2, aH^+, HCO_3, Hct, Std.HCO_3, O_2 Sat, BE, BEecf, BB, O_2 content, TCO_2.

3. **Amended as** Sample size: upto 250uL

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

5. **Point Deleted**

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. **Amended as** Electrodes: Maintenance free/low maintenance . Free replacement of all electrodes / membranes (free of cost) should be included in the warranty period. Electrode should be individually replaced(and not as single pack/cassette/cartridge together)..

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. **Amended as** 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 @30 samples/day each instruments for all the routine parameters such as pH, pCO_2, pO_2, 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 6thto 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.

COMMERCIAL AMENDMENT

SECTION – IX

QUALIFICATION CRITERIA

Existing as :

2. (a) A Tenderer quoting as Manufacturer should have supplied and installed in last Five years from the date of Tender Opening, at least 50% of the quoted quantity of the similar equipment which is functioning satisfactorily in Government Hospitals / Private Hospitals / PSU Hospital/ UN Agencies/Laboratories anywhere in India. Tenders shall submit Performance Certificate / Installation reports & Order Copies in respect of the above.

2. (b) A Tenderer quoting as authorized representative of the manufacturer should have executed at least one contract in the last five years from the date of tender opening of similar equipment which is functioning satisfactorily, in Government Hospitals/Private Hospitals/PSU Hospital/UN Agencies/Laboratories anywhere in

India. Tenders shall submit Performance Certificate / Installation reports & order copies in respect of the above.

To be read as :

2. (a) The Manufacturer should have supplied and installed in last Five years from the date of Tender Opening, at least 33 % of the quoted quantity of the similar equipment meeting major parameters of technical specification which is functioning satisfactorily.

2 (b). The Tenderer quoting as authorized representative of the manufacturer meeting the above criteria 2 (a) should have executed at least one contract in the last five years from the date of tender opening of similar equipment meeting major parameters of Technical specification which is functioning satisfactorily, anywhere in India of the same manufacturer.

SECTION - IV
GENERAL CONDITIONS OF CONTRACT (GCC)

Liquidated damages:

Existing as :

23.1 Subject to GCC clause 26, if the supplier fails to deliver any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Purchaser/Consignee shall, without prejudice to other rights and remedies available to the Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser/Consignee may consider termination of the contract as per GCC 24.
During the above-mentioned delayed period of supply and / or performance, the conditions incorporated under GCC sub-clause 22.4 above shall also apply.

To be read as:

23.1 Subject to GCC clause 26, if the supplier fails to deliver any or all of the goods or fails to perform the services within the time frame(s) incorporated in the contract, the Purchaser/Consignee shall, without prejudice to other rights and remedies available to the Purchaser/Consignee under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week of delay or part thereof on delayed supply of goods and/or services until actual delivery or performance subject to a maximum of 10% of the contract price. Once the maximum is reached Purchaser/Consignee may consider termination of the contract as per GCC 24.

During the above-mentioned delayed period of supply and / or performance, the conditions incorporated under GCC sub-clause 22.4 above shall also apply.

23.2 In the event of delay in submission of Proforma Invoice beyond 7 working days from the date of notification of award, the delay shall be to the account of supplier & Purchaser shall deduct Liquidated damages, as per clause 23.1. Proforma Invoice should be strictly as per the terms & conditions mentioned in Notification of Award / Tender Conditions.

23.3 Proforma Invoice submitted by supplier is found to be deficient, because of which purchaser is unable to open the letter of credit, delay shall be to the account of supplier & purchaser shall deduct liquidated damages as per clause 23.1.

All other terms & conditions remains unaltered.

Medical Superintendent
Safdarjung Hospital & VMMC,
New Delhi.