

**Annexure-A**

**No. HOS/EQUIP/13**

Imphal, the 23<sup>rd</sup> June 2015

(All the equipment's should be US FDA approved/ CE Certified)

**Item No.1:- Fibre optic Intubating Laryngoscope set**

Particulars –

- I. Field of view: 90 degree or less
- II. Direction of view: 0 degree, forward viewing
- III. Depth of field: 3 to 50 mm or better
- IV. Distal end outer diameter:5.1mm or less
- V. Insertion tube outer diameter:5.2mm or less
- VI. Tip Angulation range: Up 170° or higher,
- VII. Down:120° or higher
- VIII. Channel inner diameter: 2.5 mm or more
- IX. Working length: 600 mm Integrated camera and white LED light inbuilt on the scope.
- X. Camera on the scope to till 90° on both the sides

**Item No.2:- BIS monitor**

- i. For assessing the level of consciousness/sedation.
- ii. EEG Scales: One channel display: 25  $\mu$ V/div (div(+/-50 $\mu$ V full scale)
- iii. Two or four channel display : 50  $\mu$ V/div(+/-50 $\mu$ V per waveform)

**Item No.3:- AUTOMATED BLOOD GAS ANALYZER WITH ELECTROLYTES**

- i. The analyzer should be able to measure blood gas (pH, pO<sub>2</sub>, pCO<sub>2</sub>) and electrolytes (Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>)
- ii. Sampling: By automated probe aspiration through syringe & capillary.
- iii. The instrument should be operated with multiple test cartridge / cassettes.
- iv. The cartridge / cassettes should have variable pack sizes from minimum of 25 tests to 300 tests.
- v. Analyzer should have minimum onboard test capacity of 25 test to maximum 300 tests.
- vi. The cartridge / cassettes should have a minimum of 60 days on-board stability.
- vii. The system should be small and portable and easy to carry.
- viii. Should be operational on power and on battery.
- ix. Analyzer should have automated entry and logging of consumables.
- x. Analyzer should have a start-up time should be 8 ~10 minutes.
- xi. Analyzer should have large touch screen facility and optional for key board operation.
- xii. Analyzer should not use any gas bottle/tanks/cylinders/ for calibration.
- xiii. Analyzer should not use any conventional electrodes/conventional individual sensors/Foil pack reagents for Measurement of parameters.
- xiv. Analyzer should have onboard printer.
- xv. Analyzer should have data back-up facility option with USB ports.
- xvi. Analyzer should be able to measure all parameters with 60~75microL.
- xvii. Sample measurement time: max 60 seconds and sample to sample cycle time max 120 seconds.
- xviii. Analyzer should have integrated barcode reader to support sample identification.
- xix. The analyzer should perform samples like: whole blood and others fluids.
- xx. Analyzer should have on screen display of Levy-Jennings plot.
- xxi. Analyzer should detect air-in sample.



**Item No.4:-HIGH END ULTRASOUND SYSTEM**

(a)

i.	System must be a state -of -the -art model with all digital beam former with super computed signal processing and clinically proven imaging technologies.
ii.	System must be offered with the following applications: Abdominal, OB/Gyn, Renal, Small parts, Musculoskeletal, TCD, cardiology, Vascular, TEE.
iii.	System must be offered with a minimum of 20000 digital processed channels per image frame .Original technical data sheet should be enclosed in the technical bid to support the number of channels on the systems. If not mentioned please attach a letter from manufacturer along with the technical bid clearly stating the channels of the offered system.
iv.	System must have TEE transducers with either single crystal technology or pure wave or matrix technology for excellent image quality on difficult to image patients. Technical data sheet should be enclosed in the technical bid to support the above technology used in the transducer. System offered with normal transducers for adult echo are liable for rejection.
v.	System must be offered with a minimum 17 inch High Resolution Integrated flat panel Display monitor Articulating Arm.
vi.	System must be offered with frequency compounding facility. Other equivalent Technology can also be offered. Processing technology in technical bid should be highlighted.
vii.	System must be offered with 2D, M - mode, colour M-Mode, Anatomical M-mode, colour Flow, Pulse wave Doppler, continuous Wave Doppler and Directional colour power Doppler.
viii.	System must be offered with Speckle Reduction Imaging: Image processing technique to remove speckles and clutter artifacts.
ix.	System must be offered with a very high dynamic range of at least 170 Db to pick up subtle echoes Original technical data sheet should be enclosed in the technical bid to support the Dynamic range in Db. If not mentioned please attach a letter from manufacturer along with the technical bid clearly stating the dynamic range of the offered system.
x.	Frequency processing facility for the transducers should be 1-11 MHz. This must be available without the need for frequency switching.
xi.	System must be offered with a control panel which is touch interface with slide-post control adjustment of TGC curve.
xii.	Independently selectable gain control in Lateral plane.(Better technology can also be offered).
xiii.	System must be offered with Anatomical M-Mode (Angle-corrected M-mode).
xiv.	Must be offered with a single button control for automatic optimization and adjustment of TGC and Receiver Gain to achieve optimal uniformity of image quality and faster scans. This should be demonstrated to the users in Cardiology and vascular exams during technical discussions.
xv.	System must be offered with an 2 D frame rate of at least 750 frames/second. Acquisition frame rate should be clearly mentioned in the technical quote if not mentioned please attach a letter from manufacturer along with the technical bid clearly stating the dynamic range of the offered system, failing which the bid is liable for rejection.
xvi.	System must be offered with pulsed wave Tissue Doppler Imaging (TDI) for velocity mapping of cardiac tissue and vessel wall motion.
xvii.	System must be offered with colour TDI- uses colour to display direction and timing of myocardial function.
xviii.	System Must have 3 Active Imaging Transducer Ports with electronic switching from the console.

*SRK*

(b):-

**Internal Battery backup**

**SPECIFICATION FOR ECHOCARDIOGRAPHY SYSTEM:**

i.	System must be offered with Enhanced Tissue Harmonic Imaging should be standard on the system. This should be based on a real-time digital signal storage and phase cancellation technique to enhance axial and contrast resolution.
ii.	System should have extensive image management capability including thumb nail review, cine loop editing etc.
iii.	System should have facility to transfer images to an integrated CD writer, without any interfacing. Specify if integrated CD writer is available in your technical quote.
iv.	Print – should have direct connectivity to Inkjet printer for printing images & report.

(C) :-

**SYSTEM MUST BE QUOTED THE FOLLOWING BROADBAND TRANSDUCERS**

i.	2-(8 ± 2) MHz Broadband Convex Transducer for Abdomen, Renal and OB/GYN imaging. Must have Tissue Harmonic Imaging.
ii.	2-(8 ± 2) MHz Broadband Linear Transducer for Vascular, small parts imaging. Must have Tissue Harmonic Imaging.
iii.	2-(6±2) MHz Broadband Adult Echo Transducer for adult Cardiology imaging. Must have Tissue Harmonic Imaging. Must attach original technical data sheet of transducer.
iv.	Active matrix TEE Transducer for Adult with frequency ranging from 2- (9 ± 2) MHz. This transducer must have either single crystal technology, Pure wave technology or Active matrix technology for excellent image quality on difficult to image patient. Please mention the crystal technology used in the transducer.
	System should be supplied with the following peripheral devices:
v.	Sony Thermal B/W Printer.

**Item No.5:- Flexible Fiber-optic Bronchoscope**

- 5.6mm X 54cm channel
- 2.6mm Work Channel
- Deflection 100 degree down
- 180 degree up
- Angle view 110 degree
- Comes with 1101 KL & 11002 KS flexible forceps biopsy and grasper, Cleaning brush, Leakage restor, 6007 adapters,11301 CD Value, 11301 CE value,13272 bite guard, 1301 CSA seal channel.

### **Item no.6:- TCI Pump**

- i. Open TCI system
- ii. Embedded TCI models in plasma and effect mode
- iii. Syringe protection "Push guard"
- iv. Integrated handle
- v. Integrated pole-rail clamp "Swing lock Clamp"
- vi. Self-stackable device
- vii. Standard power cord compatible
- viii. Separate silence key
- ix. Separate C/back key
- x. Syringe positioning detector
- xi. Syringe diameter recognition with restricted syringe list proposed
- xii. Syringe remains always visible
- xiii. Anti-bolus function
- xiv. Advanced pressure management (DPS solution)
- xv. Line disconnection warning
- xvi. Drug list and drug library stored per default in the device
- xvii. 4 Various drug libraries storable
- xviii. Bolus settings directly on the front panel (not in the menu)
- xix. Adjustable weight per default in configuration
- xx. 2 KVO storable per default
- xxi. Pause adjustable on the front panel (not in the menu)
- xxii. Advanced night mode
- xxiii. Advised or mandatory prime options
- xxiv. Graphic history (pressure, dose rate, target/concentration)

### **Item No.7:- HUGGER PATIENT WARMING SYSTEM**

Warming system for seriously hypothermic patients able to maintain patients body temperature consistently in the operation room, ICU to reduce shivering, provide the earlier return of homodynamic stability and lesser a patients drugs requirements. It applies sufficient heat to the skin surface to raise body temperature by 2.5°C per hr.

- i. Arched blanket design – hugger patients and transfers heat to as much as 70% of the body surface area.
- ii. Central manifold – director heat to core of the body and ensure even temp. from head to toe.
- iii. Provide even temp. Across the blankets and patient.
- iv. Light weight over patient fit-safe warming avoids tissue damaging.
- v. Variety of blankets is available such as UPPER BODY, LOWER BODY, FULL CHEST ACCESS, MULTI ACCESS FOR adults/infants/Cub blankets.
- vi. Absolute heat transfer – 49 watts.
- vii. Weight 11.5 Lbs/5.2 Kg.
- viii. Temp. Range - Ambient to 110°F. Max. Filter – High efficiency 2 Micron filter.
- ix. Can also be used for fluid warming/Blood warming Easy to manage lengths of hyper allergenic, Pressure sensitive tape.



**Item no.8:- MULTIPARA METER MONITOR**

**(a)**

- i. Temperature (Non-invasive)
- ii. SPO<sub>2</sub>
- iii. ECG
- iv. ETCO<sub>2</sub>
- v. NIBP

**(b)**

- vi. Temperature (Invasive)
- vii. SPO<sub>2</sub>
- viii. ECG
- ix. ETCO<sub>2</sub>
- x. NIBP

**Item No.9:- DEFIBRILLATOR WITH CARDIAC MONITOR**

- i. Biphasic, Manual and AED with voice prompt, compact and light weight
- ii. Energy selection 5J to 200J in steps.
- iii. Momentary energy selection access on front panel.
- iv. Should have adult and pediatric paddles integrated on same handle.
- v. Momentary charge key on front panel and on the apex hand.
- vi. Monitor should display selected and delivered energy
- vii. Should have disarm facility.
- viii. Energy should be delivered within 30ms after the detected R wave in synchronization mode.
- ix. Charging time maximum 5 sec for 200J.
- x. Should have battery back up for 50 discharges of 200J.
- xi. Should have ECG inputs through paddles or 3 lead cables.
- xii. Should have display for selected ECG input source (I, II, III, paddles)
- xiii. Lead off message should appear with alert tone.
- xiv. Amplitude gain of ECG waveform should be adjustable
- xv. Should have display for heart rate.
- xvi. Should have alarm for high and low HR.
- xvii. Should have an inbuilt thermal recorder.
- xviii. Should have enable/disable option for printer.
- xix. Should supply 2 bottle of jelly, 12 roll of thermal paper.
- xx. Should supply three pairs of AED pads
- xxii. Should operate on mains 230V, 50Hz.



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