Amendment No. 4

Dated 24.09.2013

Ref: Tender Enquiry No: HLL/PCD/PMSSY/AIIMS-II/01/13-14 dated 17.08.2013

The pre-bid meeting for the referred tender enquiry was held on 06/09/2013. The following amendments are being incorporated in the referred tender enquiry document.

SECTION – VII

Technical Specifications

Item No: 01

CT SCAN– 64 Slice

1. Existing Specification:

Para: The system should be latest state of the art, independent **64 or more rows of detectors with acquisition of at least 64 slices per rotation** capable of integrating with any PACS/HIS system.

Read as:

Para: The system should be latest state of art, **independent 64 or more rows of detectors with acquisition of at least 128 slices per rotation** capable of integrating with any PACS/HIS system.

2. Existing Specification:

Para: **c) X-Ray Tube:** Anode Heat Storage Capacity of at least **6.3 MHU** or direct cooling tube

Read as:

Para: **c) X-Ray Tube:** Anode Heat Storage Capacity of at least **7.0 MHU** or direct cooling tube

3. Existing Specification:

Para: g) Data Acquisition System:

At least 64 rows of independent detectors are required with Z-axis coverage of 38 mm or more

Read as:

Para: g) Data Acquisition System:
At least 64 rows of independent detectors **with acquisition of at least 128 slices per rotation with maximum Z-axis coverage**

4. Existing Specification:
Para: j) Workstation client server architecture:
4. ix. Bone Mineral Densitometry software:

Read as:

Para: j) Workstation client server architecture:
4. ix. Bone Mineral Densitometry software **with BMD Phantom.**

5. Added Para:

Should include Revolutionary technology in Needle Positioning using Robotics systems (Price should be quoted separately)

Item No: 02

MRI- 1.5 Tesla

1. Existing Specification:

Competitive bids are invited for installation of 1.5 Tesla MRI System with state-of-the-art latest features commercially available at the time of supply European CE/ US FDA approved). The system should be cost effective, with user friendly platform, reliable and capable of providing excellent performance for clinical imaging and research. The detailed specification that follows shall be understood to be minimum requirement.

Read as:

Competitive bids are invited for installation of 1.5 Tesla MRI System with state-of-the-art latest features commercially available at the time of supply. **These features should not be less than the latest RSNA release. The bidder should submit an undertaking that the system and any part thereof is not recycled/refurbished**. The system should be European CE/ US FDA approved). The system should be cost effective, with user friendly platform, reliable and capable of providing excellent performance for clinical imaging and research. The detailed specification that follows shall be understood to be minimum requirement.

2. Existing Specification:

Para: 8. COIL SYSTEM

a. The main body coil integrated to the magnet must be Quadrature / CP. In addition to this following coils should be quoted (total **11** including body coil)
b. Multichannel Head coils with **at least 8 channel** for high resolution brain imaging. (16 channel coil should be supplied whenever available to the vendor with no additional cost.)
c. Neuro-vascular Coil with 16 or more channels or Head / Neck Coil , capable of high resolution neuro-vascular imaging
d. Spine Array/Matrix Coils for thoracic and lumbar spine imaging.
e. Body Array/Matrix coil with at least 38 cm z axis coverage for imaging of abdomen, angiograms and heart. (The best available body coil with the vendor must be supplied)
f. Dedicated Cardiac Coil **(optional – Price to be quoted separately).**
g. Suitable coil for peripheral angiography application
h. Bilateral Breast Coil with at least 4 channel **The best available coil with vendor should be supplied.**
i. Dedicated Shoulder Coil
j. Dedicated Knee Coil
k. General purpose flexible coils and circular coils
l. Loop Flex Coil
m. The system should continuously monitor the RF coils used during scanning to detect failure modes. RF coils should not require either set up time or coil tuning; Multi coil connection for up to 2 or more coils multaneous scanning without patient repositioning i.e. like 4GTIM/ GEM/D stream coil combination should be quoted as standard.

Read as:

Para: 8. COIL SYSTEM

a. The main body coil integrated to the magnet must be Quadrature / CP. In addition to this following coils should be quoted.
b. Multichannel Head coils with **at least 15 channel** for high resolution brain imaging.
c. Neuro-vascular Coil with 16 or more channels or Head / Neck Coil , capable of high resolution neuro-vascular imaging
d. Spine Array/Matrix Coils **with atleast 32 channels** for thoracic and lumbar spine imaging.
e. Body Array/Matrix coil with **18 – 32 channels** with at least 38 cm Z- axis coverage for imaging of abdomen, angiograms and heart. (The best available body coil with the vendor must be supplied).
f. **Dedicated Cardiac Coil / equivalent with atleast 18 – 32 channels**
g. Suitable coil **with atleast 32 channels** for peripheral angiography application
h. Bilateral Breast Coil **with at least 8 channels**. (The best available coil with vendor should be supplied)
i. Dedicated Shoulder Coil
j. Dedicated Knee Coil **with atleast 15 channels**.
k. General purpose flexible coils and circular coils
l. Loop Flex Coil
m. Neck phased array coil - 8 channel or above
n. Suitable coils for multinuclear MR spectroscopy for brain, muscle, cardiac and liver spectroscopy.

o. The system should continuously monitor the RF coils used during scanning to detect failure modes. RF coils should not require either set up time or coil tuning; Multi coil connection for up to 2 or more coils multaneous scanning without patient repositioning i.e. like 4GTIM/ GEM/D stream coil combination should be quoted as standard.

3. Added Para:

1. The bidder should mention the latest technology like **"Silent MR" or equivalent" available with offered system**.
2. The bidder should mention the advanced software available with the offered model for advanced clinical and research point of view.

Item No: 03

ICU Beds

1. Existing Specification:

Para: 2.1 The system should be electrically operatable and adjustable for heights, trendelenburg etc. It should also be having radiotransluscent top for carrying out X-Ray at the bedside.

Read as:

Para: 2.1 The system should be electrically **operatable by control panel** and adjustable for heights, trendelenburg etc. It should also be having radiotransluscent top for carrying out X-Ray at the bedside.

2. Existing Specification:

Para: 3.3 Should have X-Ray cassette holder underneath the back section & should allow insertion of X-Ray cassette from either side of the bed.

Read as:

Para: 3.3 Should have X-Ray cassette holder underneath the back section & should allow insertion of X-Ray cassette from **either side of the bed or from Head end.**

3. Existing Specification:

Para: 3.4 Base frame & support frame should be made up of Stainless steel for long life & prevention from rusting.

Read as:

Para: 3.4 Base frame & support frame should be made up of **Epoxy powder coated MS or CRCA tubes** for long life & prevention from rusting.

4. Existing Specification:

Para: **3.5** Should have stepless electrical adjustment for the following :-
a. Height: 450-840 mm
b. Back section: 0- 50 degrees
c. Leg Section: 0-30 degrees

Read as:

Para: **3.5** Should have stepless electrical adjustment for the following :-
a. Height: 450-840 mm **+/-10%**
b. Back section: 0- 50 **degrees or more**
c. Leg Section: 0-25 **degrees or more**

5. Existing Specification:

Para: 3.6 Should have step-less pneumatic adjustment for Trendlenburg (25°C approx.), anti-trendlenburg (15°C approx)

Read as:

Para: Should have step-less **pneumatic / electric adjustments** for Trendlenburg (**12 deg or more**.); anti-trendlenburg (**12 deg or more)**

6. Existing Specification:

Para: 3.8 Should be equipped with four articulated half-length tuck away side rails

Read as:

Para: 3.8 Should be equipped with four articulated half-length tuck away side rails **with lock facility**

7. Existing Specification:

Para: 3.9 Should be equipped with large castors (diameter 150 mm) with central braking and steering facility.

Read as:

Para: 3.9 Should be equipped with large castors **(diameter atleast 125 mm)** with central braking and steering facility.

8. Existing Specification:

Para: 3.13 Dimensions of bed:
Length: 2200 -2290 mm

Read as:

Para: 3.13 Dimensions of bed:
Length: **2100 -2290 mm**

9. Existing Specification:

Para: **7.2** Should be **FDA or CE or BIS** approved product

Read as:

Para: 7.2 Should be **USFDA or European CE** approved product.

10. Existing Specification:

Para: 4.5 IV Rods: **04 Nos.**

Read as:

Para: 4.5 IV Rods: **01 No.**

11. **Existing Specification:**

Para: 6.1 Power input to be 180-270VAC, 50-60Hz as appropriate fitted with Indian plug.

Read as:

6.1 Power input to be 180-270 V AC, 50-60 Hz as appropriate fitted with Indian plug **with rechargeable battery backup of atleast one hour.**

Item No: 04

Pulse Oximeter with NIBP and Central Monitor

The existing technical specification is replaced by the following :

1 Description of Function

1.1 A pulse oximeter is a medical device that indirectly measures the amount of oxygen in a patient's blood (as opposed to measuring oxygen saturation directly through a blood sample) and changes in blood volume in the skin, producing a photoplethysmograph

2 Operational Requirements

2.1 Suitable for all types of Patient range :Adult, pediatric, infant, and/or neonate (Masimo/Nelcore technology)

3 Technical Specifications

3.1 Display- LCD, Backlight illuminated

3.2 Parameters and waveform displayed- SpO2, pulse rate, system status, plethysmogram, menus for user settings
3.3 SPO2 range- 21- 100 %
3.4 Accuracy of SPO2- ±2%(70-100% adult pediatric non motion) ±3%(70-100%, neonate, nonmotion)
3.5 Pulse rate range should be 18-300 bpm
3.6 Audiovisual Alarms- High/low SpO2 and pulse rate, sensor off, sensor failure, low battery Alarm range- 50-100%
3.7 Alarm override facility
3.8 Cable length should be minimum 1 metre
3.9 Interface for data communication.
3.10 Integrated Printer/External Printer
3.11 Battery back-up operating time 5 hours.

4 System Configuration Accessories, spares and consumables
4.1 System as specified-
4.2 SpO2:Adult, Pediatric & Neonate SpO2 sensor with cable- two nos each per monitor.

5 Environmental factors
5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50 deg C and relative humidity of 15-90%
5.2 The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

6 Power Supply
6.1 Should work on 220-240V AC as well as rechargeable batteries. Mains adaptor to be supplied
6.2 Rechargeable battery operated system. Charger to be provided if integrated charger is not there

7 Standards, Safety and Training
7.1 Should be US FDA or European CE approved product
7.2 Manufacturer/Supplier should have ISO certification for quality standards.
7.3 Certificate of calibration from the factory should be provided with the supply.

Item No. 5

Syringe Infusion Pump

1. Existing Specification:

Para: 2.1 The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system. **This should be able to integrate in the HIS**

Read as:

Para: 2.1 The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system.

2. Existing Specification:

Para: 3.1 Flow rate programmable from **0.1 to 200 ml/hr or more in steps of 0.1 ml/hr** with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.

Read as:

Para: 3.1 Flow rate programmable from **0.1 to 1000 ml/hr or more in steps** with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.

3. Existing Specification:

Para: 3.2 Bolus rate should be programmable to **400 – 500 ml/hr or more** with infused volume display. Reminder audio after every **0.5 ml** delivered bolus. SAVE last Bolus rate even when the AC power is switched OFF.

Read as:

Para: 3.2 Bolus rate should be programmable to **100 – 1500 ml/hr or more** with infused volume display. Reminder audio after every **1.0 ml** delivered bolus. SAVE last Bolus rate even when the AC power is switched OFF.

4. Existing Specification:

Para: 3.3 Display of Drug Name with a provision of memorizing **10~15 names** by the operator

Read as:

Para: 3.3 Display of Drug Name with a provision of memorizing **30~40 names** by the operator

5. Existing Specification:

Para: 3.6 Must Work on commonly available ISI/CE/FDA APPROAVED/CERTIFIED **20, 50/60 m**l Syringes with accuracy of minimum of +/-2% or better.

Read as:

Must Work on commonly available ISI/CE/FDA APPROAVED/CERTIFIED **5, 10, 20, 30, 50/60 ml** Syringes with accuracy of minimum of +/-2% or better.

6. Existing Specification:

Para: **3.9** Should have comprehensive alarm package including: Occlusion limit exceed alarm, Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow, Low battery pre alarm and alarm, AC power failure, Drive disengaged and **preventive maintenance.**

Read as:

Para: **3.9** Should have comprehensive alarm package including: Occlusion limit exceed alarm, Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow, Low battery pre alarm and alarm, AC power failure and Drive disengaged.

7. Existing Specification:

Para: 3.10 Rechargeable Battery having at least **5~6 hour backup** for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.

Read as:

Para: 3.10 Rechargeable Battery having at least **2~3 hour backup** for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.

8. Existing Specification:

Para: 4.2 Mounting device/ Docking Station **for two or four pumps as per requirement so as to enable to power up to 2-4 pumps** with one power cord when mounted on IV pole. – 01

Read as:
Para: 4.2 Mounting device/ Docking Station **for 5-6 pumps as per requirement so as to enable to power up to 5-6 pumps** with one power cord when mounted on IV pole. – **Total 08 Nos per AIIMS**

9. Existing Specification:

Para: 5.2 The unit shall be capable of operating continuously in ambient Temperature of 10 - 40deg C and **relative humidity of 15-90%**

Read as:

Para: 5.2 The unit shall be capable of operating continuously in ambient Temperature of 10 - 40deg C and **relative humidity of 30-90%**

10. Existing Specification:

Para: **7.1** Should be **FDA or CE** approved product

Read as:

Para: **7.1** Should be **USFDA or European CE** approved product

11. Existing Specification:

Para: **7.4** Certified for meting IEC60601-2-24: Particular requirements for the safety of infusion pumps and controllers

Read as:

Deleted

12. Existing Specification:

Para: **7.5** Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection, water ingress.

Read as:

Deleted

13. Existing Specification:

Para**:** 7.6 Electrical Safety Classification Class I/II, Type CF and Internally powered equipment.

Read as:

Deleted

Item No. 6

Defibrillator with ECG Monitor

1. Existing Specification:

Para: 2.4 Should work on Manual and Automated external defibrillation (AED) mode Manual selection up to **360 J.**

Read as:

Para: 2.4 Should work on **both** Manual and Automated external defibrillation (AED) mode up to **200 J or more.**

2. Existing Specification:

Para: 3.1 Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of **360 Joules**

Read as:

Para: 3.1 Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of **200 Joules.**

3. Existing Specification:

Para: 3.2 Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles. Should have **Automatic Lead switching** to see patient ECG through paddles or leads

Read as:

Para: 3.2 Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles. Should have **Automatic or Manual Lead switching** to see patient ECG through paddles or leads

4. Existing Specification:

Para: **3.5** Should have charging time of **less than 3 seconds** for maximum energy. Charging indicator should be there.

Read as:

Para: **3.5** Should have charging time **of less than 6 seconds** for maximum energy. Charging indicator should be there.

5. Existing Specification:

Para: 3.6 Should have bright electroluminescent display for viewing messages and ECG waveform of 4 seconds

Read as:

Para: 3.6 Should have bright **LCD / TFT display** for viewing messages and ECG waveform of 4 seconds

6. Existing Specification:

Para: **3.7 Should have external & internal paddles with paddles contact indicator – for good paddle contact.** Single Adult and pediatric paddles should be available

Read as:

Para: **3.7** Single Adult and pediatric paddles should be available.

Internal paddles should also be available and price to be quoted separately.

7. Existing Specification:

Para: 3.12 Should have SP02 and **NIBP** integrated facility

Read as:

Para: 3.12 Should have SP02 and **EtCO2** integrated facility**.**

8. Existing Specification:

Para: **4.7** NIBP Cuff Adult – 02
NIBP Cuff Paediatrics- 02
NIBP Cuff Infants- 02

Read as:

Deleted.

9. Existing Specification:

Para: **7.1** Should be **FDA or CE** approved product

Read as:

Para: **7.1** Should be **USFDA and European CE** approved product

10. Existing Specification:

Para: **7.3** Drop Test-Withstands 1 meter drop to any edge, corner or surface.

Read as:

Deleted

11. Existing Specification:

Para: 7.5 Should meet IEC 529 Level-2 (IP2X) for enclosure protection solid foreign object ingress

Read as:

Deleted

Item No. 7

Fibroscopic Bronchoscope –ADULT

The technical specifications for Video bronchoscope will be uploaded shortly.

Item No. 8

Ventilator-portable

1. Existing Specification:

Para: 2.2 Should be microprocessor controlled, portable, light weight. Should operate with main electric supply as well as with battery. Should be able to work both **with cylinders and pipeline,** connectors and high-pressure tubing of appropriate length to be supplied

Read as:

Para: 2.2 Should be microprocessor controlled, portable, light weight. Should operate with main electric supply as well as with battery. Should be able to work both **with high pressure O2 (cylinders and pipeline) and low pressure O2 source**, connectors and high-pressure tubing of appropriate length to be supplied

2. Existing Specification:

Para: **3.1** Should have **turbine/venturi/jet mixing**- technology for supplying air oxygen Mixture

Read as:

Para: 3.1 Should have turbine/ venturi/jet mixing/**piston**- technology for supplying airoxygen Mixture

3. Existing Specification:

Para: 3.4b. **PEEP/CPAP & PS**

Read as:

Para: 3.4b. **PEEP/CPAP- 0-40cm H2O**
PS- 0-60cm H2O

4. Existing Specification:

Para: 3.4 e. FiO2 **40** – 100%

Read as:

Para: 3.4 e. FiO2 **21** – 100%

5. Existing Specification:

Para: 3.5 Battery backup for minimum **1 hour**

Read as:

Para: 3.5 Battery backup for minimum **3 - 6 hours.**

6. Existing Specification:

Para: 7.2 Product should be **FDA/CE or ISI** approved.

Read as:

Para: 7.2 Product should be **US FDA and European CE** approved.

7. Added para:

Product should have Airworthiness RTCA DO-160 D, section 7,8,21 and Vibration standard MIL STD 810F, method 514.5 certifications. (Preferable)

Item No. 9

Ventilator-High End (ICU)

1. Existing Specification:

Para – 2.1 -Microprocessor Controlled ventilator with integrated facility for Ventilation monitoring suitable for New born to adult ventilation.

Read As - – 2.1 -Microprocessor Controlled ventilator with integrated facility for Ventilation monitoring suitable for **Preterm,** New born to adult ventilation.

2. Existing Specification:

Para: 3.2 Colored **TFT screen**, 12 Inch or more

Read as:

Para: 3.2 Colored **Touch LCD/TFT** screen, 12 Inch or more

3. Existing Specification:

Para: 3.3 Facility to measure and display
a. End tidal CO2 with capnography.

Read as:

Para: 3.3 Facility to measure and display
a. End tidal CO2 with capnography **integrated in ventilator with display of values and EtCO2 waveform on the screen.**

4. Existing Specification:

Para: 3.4 Trending facility for **72 hours** with minimum 5 minutes resolution **for recent 24 hours**

Read as:

Para: 3.4 Trending facility for **24 hours** with minimum 5 minutes resolution

5. Existing Specification:

Para: 3.6 Following settings for all age groups.
a. Tidal Volume

Read as:

Para: 3.6 Following settings for all age groups.
b. Tidal Volume: Lowest **5 ml or less**

6. Existing Specification:

Para: 3.6 j- Pressure **and** Flow Trigger.

Read as:

Para: 3.6 j- Pressure and/**or** Flow Trigger.

7. Existing Specification:

Para: 3.7 g. Intrinsic PEEP **and** PEEPi Volume

Read as:

Para: 3.7 g. Intrinsic PEEP and/**or** PEEPi Volume

8. Existing Specification:

Para: 3.7 Monitoring of the following parameters
i. Resistance & Compliance

Read as:

Para: 3.7 Monitoring of the following parameters
i. Resistance (Inspiratory and expiratory) & Compliance (Static and dynamic)

9. Added Para under 3.7:

k. Shallow breathing index and stress index.

10. Existing Specification:

Para: 3.8g-Advanced mode like pressure controlled volume guaranteed/dual modes/PRVC/Auto flow.

Read as:

Para: 3.8g-Advanced mode like pressure controlled volume guaranteed/dual modes/PRVC/Auto flow/ **ASV/Smartcare/NAVA/ PAV.**

11. Existing Specification:

Para: 3.10 Expiratory block should be autoclavable and no routine calibration required.

Read as:

Para: 3.10 **Two autoclavable expiratory blocks including flow sensors should be provided with each ventilator and** no routine calibration should be required**.**

12. Existing Specification:

Para: 3.11 Should have the ability to calculate / Procedure

a. Intrinsic Peep **&** Intrinsic PEEP Volume

Read as:

Para: 3.11 Should have the ability to calculate / Procedure

a. Intrinsic PEEP and/**or** PEEPi Volume

13. Existing Specification:

Para: 3.12 Nebuliser with capability to deliver particle size of < 3 micron & to be used in both Off and On line.

Para:

Para: 3.12 **In built** nebuliser with capability to deliver particle size of < 3 micron.

14. Existing Specification:

Para: 3.16 RS 323C interface for communications with networked devices.

Read as:

Para: 3.16 RS 232 **or similar** interface for communications with networked devices. HL7 compatible.

15. Existing Specification:

Para: 4.2 Adult and Paediatric autoclavable silicone breathing circuits – 02 each

Read as:

Para: 4.2 Adult, **Neonatal** and Paediatric autoclavable silicone breathing circuits – 02 each

16. Existing Specification:

Para: 4.4 Medical Air Compressor. (Optional)

Read as:

Para: 4.4 **Medical Air Compressor and ventilator should be from same principle manufacturer. (Price should be quoted separately)**

17. Existing Specification:

Para: 6.2 Suitable Servo controlled Stabilizer/CVT

Read as:

Deleted

18. Existing Specification:

Para: 6.3 Resettable overcurrent breaker shall be fitted for protection

Read as:

Deleted

19. Existing Specification:

Para: 6.4 Suitable UPS with maintenance free batteries for minimum one hour back up should be supplied with the system.

Read as:

Deleted

20. Existing Specification:

Para: 7.2 Should be **FDA or CE** approved product

Read as:

Para: 7.2 Should be **US FDA and European CE** approved product

21. Added Para:

1. Trolley,Hinged Arm and other parts should be from the same principal company/same Manufacturer/same OEM
2. Permanent flow sensors – 2 nos
3. Proximal flow sensors for neonates- 02 nos.

Item No. 10

Transport Monitor

Item deleted.

Item No. 11

Modular Multi Parameter Monitor

The existing technical specification is replaced by the following:

Item No. 11

Complete Monitoring System for ICU

Equipment Specifications for Complete Monitoring System for ICU

1. Description of Function

1.1 Critical patients need to be monitored continuously in ICU at the bedside as well as at the central nursing station.

2. Operational Requirements

2.1 ICU should comprise of monitors at the bedside and with central station.
2.2 Capability of storage of patient data and printing of patientreports.
2.3 Demonstration of the equipment is a must.

3. Technical Specifications

3.1 Minimum 15 inches multi colored **Touch** screen **LCD/**TFT display.
3.2 Separate CPU/Module rack**/New modular technology**.
3.3 Eight digital and waveforms/traces display
3.4 Combination of single **or** dual **or** multi parameter modules.
3.5 Parameter modules freely exchangeable between all the monitors.
3.6 Multi-channel (up to 12 leads) ST segment analysis.
3.7 Facility to monitor and display - ECG, Respiration, NIBP, SpO2, CO2 with capnography, Temp, Cardiac output (**Price to be offered separately**), NMT (**Price to be offered separately**), BIS/Entropy (**Price to be offered separately**), EEG (**Price to be offered separately**) & IBP – 3 Nos.
3.8 Automatic arrhythmia detection & alarm for standard and lethal arrhythmia.
3.9 EtCO2 -Main stream **or** side stream **or** micro stream. Display both inspired and expired values, showing capnography.
3.10 NMT Module/monitor**(Inbuilt)**: For measurement and display of TOF count, TOF %, ST, DBS, Tetanic and Trend for continuous usage. Automatic measurement facility in selected time interval. Automatic selection of supramaximal current. Include standard accessories **(Price to be offered separately)**
3.11 Built in EEG Module with all accessories. **(Price to be offered separately)**

3.12 Central station for bedside monitors with independently controlled. 17" multi-color TFT Monitor, complete with Ethernet LAN cabling, alarm management, 72 hours trending, bed to bed viewing of waveforms and alarm management like silencing of alarms etc.
3.13 Should provide hemodynamic, oxygenation, Ventilation calculation package.
3.14 Should have drug calculation package.
3.15 Trend of at least 48 hours.
3.16 200 nos. event recall/snapshot facility both manually and automatically triggered by alarm.
3.17 Automatic Zoom In Facility in the monitor display.
3.18 The monitors should have monitor-to-monitor overview facility and data transfer over the network.
3.19 Web browsing facility to review each networked monitors data through hospital LAN via office PC in Hospital LAN Network and/or through dial up facility from remote location (OPTIONAL)
3.20 Colour **LCD/TFT** Slave monitors- 21 inches in ICU - one per central station
3.21 Communications with Information Management Systems:
a. To provide HL-7 compatible server for sending and receiving information to and from the monitoring network to and from Hospital Information System, Laboratory information etc for integration of various information (OPTIONAL)
b. To provide suitable facility for sending and receiving DICOM Compatible Radiological Images like Ultrasound, X-Ray etc to and from the monitoring network to and from Hospital Information System, Radiology Information System etc for integration of various information (OPTIONAL).
3.22 Include Laser Printer and dual channel strip chart recorder.
3.23 Specifications for Transport Monitor: - **(Unit Price to be offered separately. The requirement is 5 Nos per AIIMS)**
a. Portable and light weight preferably< 10 kg.
b. Modular with **10** inches or more multi-color TFT Display with touch screen.
c. Monitoring Parameters - ECG, Respiration, NIBP, SpO2 and temperature.
d. Digital and six waves/traces display.
e. Trends up to 24 hours.
f. 60 minutes or more battery backup.
g. Convenient handle for carrying the same.
h. Able to fix with bed/ trolley.

4. System Configuration Accessories, spares and consumables
4.1 ECG/Resp: 5 Lead ECG Cable with clip- 2 sets per monitor and 10 Lead ECG Cable with clip- 1 set per monitor.
4.2 NIBP: Adult cuff- 2nos. per monitor and two sizes of pediatric cuffs- one per monitor (complete sets)
4.3 Reusable SPO2: Adult SPO2 sensor with cable- two nos. per monitor and Pediatric SPO2 sensors- one no. Per monitor.
4.4 IBP: Include four nos. per monitor of reusable pressure transducer with bracket, holder and 100 nos. Disposable domes per monitor.
4.5 Temperature: Rectal temperature probe- two per monitor and skin temperature probe- one per monitor.
4.6 EtCO2 module with all accessories. In case of side stream EtCO2-10 sets of sampling tubes for each module to be included.
4.7 Cardiac Output: Should be by thermodilution method with all accessories

4.8 EEG Modules- with all accessories. Should display at least two channels **(Price to be offered separately)**

4.9 BIS/Entropy Module: Adult Sensors-200 numbers. Spectral analysis modules by compressed spectral array**(Price to be offered separately)**

4.10 Necessary cabling for networking the monitors on turnkey basis.

4.11 Necessary mounting solution/ mounting on any pendant for monitors

5. Environmental factors

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

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

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

5.4 The supplier shall provide environment friendly furnitures and wall fittings for the entire system. Cabling has to be provided by the supplier.

6. Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Suitable UPS with maintenance free batteries for minimum one-hour back up should be supplied with the system.

7. Standards, Safety and Training

7.1 Should be US FDA or European CE approved product

7.2 Shall meet the safety requirements as per IEC 60601-2-27:1994—Medical electrical equipment—Part 2: Particular requirements for the safety of electrocardiographic monitoring equipment.

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

7.4 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

7.5 Back to back warranty to be taken by the supplier from the principal to supply spares for a minimum period 10 years.

7.6 Comprehensive warranty for 2 years and provision of CMC for next 5 years.

8. Documentation

8.1 User Manual in English

8.2 Service manual in English

8.3 Must submit user list and performance report within last 5 years from major hospitals.

8.4 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.

8.5 List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service/technical manual.

8.6 List of important spare parts and accessories with their part number and costing.

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

Item No. 12

PORTABLE ULTRASOUND WITH COLOUR DOPPLER SYSTEM

1. Existing Specification:

Para: 3. It should be compatible with a Laparoscopy Probe.

Read as:

Deleted

2. Existing Specification:

Para: 5. It should have 128 or more digital channels for image formation and acquisition.

Read as:

Deleted

3. Existing Specification:

Para: 6. Transducers: Three (1) Convex 5-2 MHz for abdominal imaging, (2) Linear 13-6 MHz for intra-op imaging,(3) **Micriconvex 5-2 MHz** for Echocardiography (4) Endocavitory 8-5 MHz for transrectal ultrasonography and end firing biopsy, one each.

Read as:

Para: 6. Transducers: Three (1) Convex 5-2 MHz for abdominal imaging, (2) Linear 13-6 MHz for intra-op imaging,(3) **Sector Probe 4-2 MHz** for Echocardiography (4) Endocavitory 8-5 MHz for transrectal ultrasonography and end firing biopsy, one each.

4. Existing Specification:

Para: 10. Advanced features such as tissue harmonic imaging with contrast media and beam forming technology **should be available.**

Read as:

Para: 10. Advanced features such as tissue harmonic imaging with contrast media and beam forming technology **should be quoted as standard.**

5. Existing Specification:

Para: 17. Flat LCD/TFT monitor of **at least 10 inches.**

Read as:

Para: 17. Flat LCD/TFT monitor of **at least 15 inches.**

6. Existing Specification:

Para: 22. Facility for storage on CDR should be available.

Read as:

Para: 22. Facility for storage on CDR/**DVD should be available. Data should be transferable through the network to any other workstation**.

7. Existing Specification:

Para: 24. In built battery backup for **at least three hours** use should be available

Read as:

Para: 24. In built battery backup for **at least 45 minutes** use should be available.

8. Existing Specification:

Para: 28. The unit offered must be sturdy **and should be able to withstand accidental hits and falls during transportation.**

Read as:

Para: 28. **The unit should be light weight and sturdy.**

9. Added Para:

Additional Suitable LASER colour printer should be provided.
The system to be USFDA and European CE approved.

Item No. 13

COLOR DOPPLER ECHOCARDIOGRAPHY SYSTEM

1. Existing Specification:

Para: 3.5 Quantification of harmonics imaging

Read as:

Deleted

2. Existing Specification:

Para: 3.14 b) Detection of even subtle areas of turbulence, displaying a more physiological blood flow appearance without loss of frame rate.

Read as:

Deleted

3. Existing Specification:

Para: 3.21 Minimum 4.8 GB optical disc drive for image storage and retrieval. (standard with system)

Read as:

Para: 3.21 **CD/DVD/Flash drive** recorder for image storage and retrieval. (standard with system)

4. Existing Specification:

Para: 3.22 Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and **contrast** stress protocol.

Read as:

Para: 3.22 Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and stress protocol

5. Existing Specification:

Para: 3.24 Three transducer ports **will be preferred.**

Read as:

Para: 3.24 Three transducer ports **standard**

6. Existing Specification:

Para: 3.26 Study Manager (> 1.5 GB) for on-cart digital acquisition, review and editing of complete patient studies

Read as:

Deleted

7. Existing Specification:

Para: 4.2 **1.0-3.0 MHz** Adult Cardiac probe Electronics Phased Array probe.-01 each

Read as:

Para: 4.2 **2.0-4.0 MHz** Adult Cardiac probe Electronics Phased Array probe.-01 each

8. Existing Specification:

Para: 4.3: 3.0-11.0 MHz Electronics **Phased Array Probe** for Vascular applications- 01each

Read as:

Para: 4.3: 3.0-11.0 MHz Electronics **Linear Probe Probe** for Vascular applications- 01each

9. Existing Specification:

Para: 4.4 Multi-plane TEE Probe- **(Optional)** 4-8 MHz for Adult as well as Paediatric echocardiography.01 each

Read as:

Para: 4.4 Multi-plane TEE Probe 4-8 MHz for Adult as well as Paediatric echocardiography. - 01 each **(Standard)**

10. Existing Specification:

Para: 4.12 MO Disc – 10

Read as:

Deleted

Item No. 14

Upper GI Endoscope

The existing technical specification is replaced by the following technical specification:

Scope – UGI, Colonoscope & duodenoscope

- Compatible HD Video Processor
- Compatible 300 Xenon Light Source with spare/2 extra Xenon bulbs
- Compatible 24” or more HD medical LCD Monitor
- Portable high quality Trolley for the whole system
- Biopsy channel rubber valves (50 pieces with one endoscope)
- All Scope should be fully immersible for disinfection.

Other inclusions:

- All standard accessories, Air Leakage Tester, User/Operator & Reference Manuals,
- A fully loaded Windows Xp/Vista based PC with genuine software including windows Xp/7, office 2007/2010,software for recording ,processing and printing,
- CPU minimum 500 GB hard disk, 5 GB RAM, DVD and CD reading & writing capabilities, digital keyboard, optical mouse, 17-19” LCD monitor(other than above), UPS of standard make and model , color laser printer preferably with smart memory PC card slot or digital output to facilitate direct recording of data, image and video output from the processors
- Separate trolley for installation of computer
- Large trey should be provided for disinfection of equipment

Adult Therapeutic UGI Videoendoscope

- Optical System
  Field of View: 120-140 degree or more
  Depth of View: 5-100 mm or better
  HD TV compatible CCD: High resolution Color chip of latest technology
- Distal End (OD): 11-13 mm or less
- Bending section (Range of distal end bending)
  Up: 190-210 degree or more
  Down: 90-120 degree or more
  Right: 100-120 degree or more
  Left: 100-120 degree or more
- Insertion tube (OD): 11-13 mm or less
- Working Length: 1000-1150 mm
- Total length: 1300-1450 mm
- Instrument Channel (ID): 3.8 mm or more

Adult Video Colonoscope

- Optical System
  Field of View: 140 degree or more
  Depth of View: 4-100 mm or better
  HD TV compatible CCD: High resolution Color chip of latest technology
- Distal End (OD): 14 mm or less
- Bending section (Range of distal end bending)
  Up: 180 degree or more
  Down: 180 degree or more
  Right: 160 degree or more
  Left: 160 degree or more
- Insertion tube (OD): 13 mm or less
- Working Length: 1600-1800 mm
- Total length: 1900-2100 mm

- Instrument Channel (ID): 3.8 mm or more

Adult Therapeutic Videoduodenoscope (ERCP scope)

- Optical System
  Field of View: 100-140 degree or more
  Depth of View: 4-60 mm or better
  Angle of view: Backward oblique 5-7 degree or more
  HD TV compatible CCD: High resolution Color chip of latest technology
- Distal End (OD): 12-13.5 mm or less
- Bending section (Range of distal end bending)
  Up: 120-130 degree or more
  Down: 90 degree or more
  Right: 105 degree or more
  Left: 90 degree or more
- Insertion tube (OD): 11-13 mm or less
- Working Length: 1200-1250 mm
- Total length: 1500-1560 mm
- Instrument Channel (ID): 4.2 mm or more

- Custom-made 4x3x3 feet multi-rack good-quality trolley to keep ERCP Accessories & consumables

Accessories:

Biopsy forceps, foreign body forceps, injection needle, dormia basket and polypectomy snear – one each for all scopes

Item No. 15

Open Care System for Neonates

1. Existing Specification:

Para: 3.1 Essential parts: Cart & bassinet warming system with controls & alarms
Examination light Storage space- 2 sliding drawers below bassinet.
2 platforms of the size 9" x 12" capable of holding up to 5 Kg of equipment Cart.
Should swivel on 4 wheels of at least 5" dia- with foot operated, 2 front lockable wheels.

Read as:

Para: 3.1 Essential parts: Cart & bassinet warming system with controls & alarms
Examination light Storage space- **1 sliding drawer or more with accessory tray below bassinet.**
2 platforms of the size 9" x 12" capable of holding up to 5 Kg of equipment Cart.
Should swivel on 4 wheels of at least 5" dia- with foot operated, 2 front lockable wheels.

2. Existing Specification:

Para: 7.1 Should be **FDA , CE,UL or BIS** approved product

Read as:

Para: 7.1 Should have **US FDA or European CE** approved product.

3. Existing Specification:

Mattress:
Width: 55-60cm
Length: 65-70 cm

Read as:
Mattress:
Width: **45-65cm**
Length: **60-70 cm**

4. Existing Specification:

Should support up to approx. 20 kgs per shelf or upto 25 kgs total on single side

Read as:

Should support up to 20 kgs total on single side

5. Added Para:

i. Heater element should be made up of quartz with parabolic reflector.

Item No. 16

Haemodialysis Machine

1. Existing specification:

Para 3.4: Y-11016/158/2010-PC/ECC

Y-11016/158/2010-PC/ECC Page No. 93

Read as:

Deleted

2. Existing Specification:

Para 3.6 Variable conductivity setting between 12 to 15

Read as:

Para 3.6 Variable conductivity setting between 12 to 15**ms/cm**

3. Existing Specification:

Para 3.7: Should have variable dialysate flow **150 ml/mt**

Read as:

Para 3.7: Should have variable dialysate flow **300-800 ml/mt**

4. Existing Specification:

Para 3.9: Heparin pump with syringe sizes up to 50 ml with pump flow rate from **1-10 ml/hr (0.1 ml increments)**

Read as:

Para 3.9: Heparin pump with syringe sizes up to **10m or 20ml**

5. Existing Specification:

Para 3.17: Extra facilities like Blood Volume sensor, Bicart Select technique and online clearance kt/V

Read as:

Deleted

6. Existing Specification:

Para 3.24: Blood pump rate from **20-500 ml/min** adaptable to standard, A-V bloodlines

Read as:

Para 3.24: Blood pump rate from **50-500 ml/min** adaptable to standard, A-V bloodlines

7. Existing Specification:

Para 7.1: Should be **FDA, CE, UL or BIS** approved product

Read as:

Para 7.1: **US-FDA or European CE** approved product.

9. Added Para:

SITC - Suitable 200 ltrs/hr RO Plant with storage tank of 500ltrs should be supplied per institute.

Item No. 17

Operation table with accessories

1. Existing Specification:

Multipurpose powered, mobile Table with divided leg section suitable for all major surgical procedures, complete with 5cm mattress and corded handset. The table should be completely oil-free for better and clean operation & maintenance.

Read as:

Multipurpose **electro hydraulic with manual override** mobile Table with divided leg section suitable for all major surgical procedures, complete with 5cm mattress and corded handset. The table should be completely oil-free for better and clean operation & maintenance.

2. Existing Specification:

General operating table features:
Full-length radio-translucent top **with integral X-ray cassette tunnel, accessible from either end.**

Read as:

General operating table features: Full-length radio-translucent top.

3. Existing Specification:

General operating table features:

1. Tabletop should be made of a special scratch resistant, hardwearing and easy to clean material. Base column cover to be made of **100□□**stainless steel alloy and stainless steel.

Read as:

General operating table features:

1. Tabletop should be made of a special scratch resistant, hardwearing and easy to clean material. Base column cover to be made of **100%** stainless steel alloy and stainless steel.

4. Existing Specification:

General operating table features:
Para 2: **Removable & interchangeable** head and leg sections with an auto-locking mechanism to suit different applications.

Read as:

General operating table features:
Para 2: **Removable** head and leg sections to suit different applications.

5. Existing Specification:

General operating table features:
Para 4: Battery powered, with facility for connection to mains electricity for immediate use. Battery Exhaustion protection and low battery warning via an audible **'beep'** should be available.

Read as:
Battery powered, with facility for connection to mains electricity for immediate use. Battery Exhaustion protection and low battery warning via an audible **'beep'/display indicator** should be available.

6. Existing Specification:

Para 5: General operating table features:

Table should not have a thread/sharp edge for ensuring proper cleaning and user safety. **Table**

Top / Base should not have welding and should be joints free.

Read as:

Para 5: General operating table features: Table should not have a thread/sharp edge for ensuring proper cleaning and user safety.

7. Existing Specification:

Para 8: General operating table features: Brakes, **5nos Wheels** for 360º rotation & Castors should be controlled by 2 foot-pedals, located at both ends of Table base.

Read as:

Para 8: General operating table features: Brakes, 4**nos Wheels**

8. Existing Specification:

Para 11: General operating table features: should have a stable construction of the base with large twin-disk castors for easy motion and manoeuvring (base braking by locking the twin-disk castors at the head end via a central **foot pedal)**

Read as:

Para 11: General operating table features:

It should have a stable construction with **4nos Wheels** of the base with large twin-disk castors for easy motion and manoeuvring (base braking by locking the twin-disk castors at the head end via a central **foot pedal/ Hand control)**

9. Existing Specification:

Para 13: General operating table features:

The Table should be operated by the following operating elements: corded hand control, **override panel**, footswitch, **IR remote control (optional).**

Read as:

Para 13: General operating table features: The Table should be operated by the following operating elements: corded hand control, **Manual override panel with manual override facility.**

10. Existing Specification:

Para B.6. Maximum trendelenburg **40 - 45deg.**

Read as:

Para B.6. Trendelenburg atleast **25deg.**

11. Existing Specification:

Para B.7: Maximum reverse trendelenburg **40 - 45 deg.**

Read as:

Para B.7: Reverse Trendelenburg atleast **25deg**.

12. Existing Specification:

Break (extension) position **210 deg**.

Read as:

Break (extension) position **200-220 deg**.

13. Existing Specification:

Break (flexion) position **130 deg**

Read as:

Break (flexion) position **110-130 deg**

14. Existing Specification:

Electrical specification:

Width **580-600 mm**

Read as:

Electrical specification:

Width **550-600 mm**

15. Existing Specification:

Electrical specification: Maximum height (without mattress) **1100-1200 mm**

Read as:

Electrical specification: Maximum height (without mattress) **more than or equal to 1100mm**

16. Existing Specification:

Electrical specification: Maximum lateral tilt **25-30 deg. (either side)**

Read as:

Electrical specification: Maximum lateral tilt **20-30 deg. (either side)**

17. Existing Specification:

Para: Electrical Specification:

Maximum weight of accessories 20 kg

Read as:

Deleted

18. Existing Specification:

Para: Accessories

Operating table top for Babies and Infants to be fixed on the main Table 1

Read as:

Deleted

19. Existing Specification:

Para: Accessories

X-Ray cassette tray 1pc

Read as:

Deleted

20. Added Para

The table should be US-FDA or European CE approved product

Item No. 18

Surgical Diathermy with accessories

The existing technical specification is replaced by the following:

Electro Surgical Unit

Should have following features and Accessories:

1 Technical Specification

1.1 ESUs are used for surgical cutting and for controlling bleeding by causing coagulation (hemostasis) at the surgical site. They deliver high-frequency electrical current through an active electrode tip, causing desiccation, vaporization, or charring by resistive heating in the target tissue.

2 Operational Requirements

2.1 Microprocessor/Microcontroller technology

3 Technical Specifications

3.1 Integrated touch screen system with 350-400W output generator for monopolar cut, 100 - 120Watt for monopolar coagulation, bipolar cut 150Watt and Bipolar coagulation 120Watt and vessel sealing system for open and laparoscopic surgery with under water cutting current.

3.2 Should provide monopolar output for cut, coagulation (fulguration & spray) & blend in multiple levels

3.3 Should have bipolar cut and coagulation in multiple levels with automatic bipolar coagulation.

3.4 Activation by foot switch and hand switch for all the modes.

3.5 Activation of bipolar by foot switch

3.6 Capable of sealing vessels up to 7 mm diameter

3.7 Auto diagnosis on switching on and during working to continuously monitor all parameters

3.8 Automatic stoppage of output in case of malfunction with acoustic and visual signal with display of error code.

3.9 Output powers adjustable automatically or manually from the control panel.

3.10 Programmable memory for output settings

3.11 Should be usable with laparoscopic monopolar and bipolar instruments, for which programmes and accessories must be available

3.12 System for neutral plate safety by continuous monitoring of contact quality and connection

3.13 System for monitoring and control of leakage current

3.14 Frequency Leakage on the patient should be less than 10 micro Amp.

4 System Configuration Accessories, spares and consumables

4.1 System as specified

4.2 The accessories should include:

(a) trolley, qty 01

(b) Mains cable with power plug for standard Indian sockets, qty 01

(c) foot switches for different outputs, qty 01

(d) reusable neutral electrode for adults and children along, with cable for neutral electrode and fixation device wherever required, qty 05 each

(e) sterilisable re usable electrode handle with finger switch with cable for electrode handle, qty 05

(f) set of electrodes (4 different types) with electrode container with holder, qty 5 of each type

(g) tip cleaner, minimum 50 nos

(h) bipolar forceps (non stick) with cable, straight (small and large), and Bayonet (small and large), qty 02 of each type

(i) cable for connecting to standard mono polar and bipolar laparoscopic instruments, qty 02

(j) Resuable dedicated instruments for open and laparoscopic monopolar, bipolar and vessel sealing use., qty 02 of each

4.3 The codes and rates of all possible individual accessories should be quoted separately with clear mention of period of validity of rates

5 Environmental factors

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

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

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug

6.2 Suitable UPS with 30 min backup

7 Standards & Safety

7.1 Should be USFDA or European CE approved product

7.2 Manufacturer should have EN ISO certification for quality standards.

7.3 Complete system and all accessories mentioned should be from same make.

8 Training

8.1 Comprehensive training for staff of user department and support services till familiarity with the system.

9 Service

9.1 Percentage of uptime guarantee of the equipment during warranty and CMC period for which commitment is to be given must be specified with acceptance of applicable penalty clauses in case of failure to do so.

9.2 After sales service must be provided in the city of installation. In situations requiring service/repair of the unit outside the city of installation, the expenditure on account of this will have to be borne by the supplier

10 Documentation

10.1 Product Literature in original along with that of accessories and indigenous components if any. Photocopies/computer generated copies are not acceptable

10.2 Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.

10.3 Certificate of compliance with standards and approvals stated above

10.4 Certificate of manufacturer/principal regarding authorization of service facility provided by the supplier

Item No. 19

Laparoscopic Surgery set

The existing technical specification is replaced by the following technical specification:

Item No. 19

Laparoscopic unit

Full High Definition Three Chip Camera System-1

1. Camera control unit with 3 chip HD camera head having HD CCD chip of same aspect ratio of 16:9
2. Pure Digital signal with high definition video (1920*1080 P) with aspect ration 16:9 with DVID & S-VHS video output.
3. Integrated Flexible Scope filter
4. Progressive scan technology
5. Brightness Control
6. Aperture Control
7. Automatic digital Image Enhancer
8. Should have optical and digital zoom, to increase and decrease the size of image which should remain in focusing zone, without readjusting the focus.
9. Should have integrated Gain, shutter, Enhancement, white balance with brightness control.
10. The Camera head should have integrated zooms and focus lens/rings to make it fully soakable.
11. Recording facility upto 1TB

High Resolution HD Video medical Monitor-02

1- 26" High Definition LED Medical grade Monitor, resolution 1920 X 1200 with DVI input, option for wall mounting and desktop in same unit
2- Fast response time
3 - One trolley for mounting the extra monitor.

Xenon Light Source-1

1- Xenon light source of 300 Watts
2- Should be able to produce colour temperature of 6000 k
3- Should have continuous manual adjustment of light output
4- One spare xenon lamp 300 watts.

Fibre Optic Light Cable-2

Fibre Optic light cable, length: 250cm.- 01No.

CO2 Electronic Insufflator-1

1- Electronic CO2 insufflators with pin index connection.
2- Adjustable flow rate of Should be upto 30 ltr or above, Per minute and a pressure range adjustable between 0-30 mm Hg.
3- Pre-set and actual value for pressure and flow should be displayed together on the front panel in digital display.

4- Constant monitoring of intra-abdominal pressure; any overpressure is released immediately with back flow with acoustic alarm.
5- Unit should have in-built heater to warm up and preheat the CO2 gas.
6- Should be able to select either central supply (4.5Kg/cm 2) input pressure from central supply as well as direct connection to high pressure CO2 Cylinder and should indicate the right inlet pressure of CO2 gas supply by bar graph on front panel of machine.
7- Unit should produce immediately acoustic alarm in case of sudden blockage in the gas outlet tube or wrongly placed veress Needle.
8- Provided with Silicon autoclave tubing with luer attachment.
9- Instrument should work on a universal power supply of 220 V, with a frequency of 50 Hz single phase.

HP Hose-1

1- Suitable high pressure hose pin index to connect the gas to insufflator, length: 1.0 meter.

CO2 Cylinder-2

1- Type B Carbon Dioxide bottle with pin index connection with wrench

Electro Surgical Unit with vessel sealer-1

1- Microcontroller based Digital Electrosurgical Unit/Cautery having peak power of minimum of 300 Watts, with Digital Display/LCD display Push Switch/touch Control Provides Consistent Performance for laparoscopic Surgical Procedures & Delivers its Optimum & Reliable Power by using latest & Advance Technology, Convenient for all Surgical Application.
2- Unipolar as well as bipolar facility having operating frequency between 450-700 KHz.
3- Must have Mono-polar & Bipolar Coagulation Facility on the unit.
4- Facility for pure cut adjustable from 0-300 watts, blend/haemostatic effects variable up to 0-250 watts, endocut/lapro/gastro cut up to 200 watts, Bipolar cut and Coagulation variable up to minimum of 100 & 120 watts respectively. Spray & Forced coagulation facility should be there up to 120 watts.
5- System should be USFDA or European CE approved
6- Unit should be supplied with double paddle footswitch, patient plate, patient cable, hand control pencil with standard accessories

Video Trolley-1

1- Suitable Medical Grade video trolley to be supplied for mounting equipment's having minimum three self in addition to with one drawer, with antistatic wheel casters, front lockable,
2- High grade of electrical insulation and earth protection.
3- 5 Ampere socket, 10Nos, inbuilt with trolley to connect all electronic devices.
4- CO2 bottle stand should be integrated with trolley.

UPS -1

1- Suitable On- line UPS with One hour battery backup for complete system and battery should be covered under warranty and CMC

The core Operating laparoscope like Telescopes, Endovision Three chip HD Camera, light source, CO2 Insufflator should be from same manufacturer.

Telescopes Full HD

Telescope 0º 10MM-2
Telescope 30º 10MM-2
Telescope 0º 5MM-2
Telescope 30º 5MM-2

1- Rod lenses system, Length: 29-31 cm, Autoclavable, Fibre optic light transmission incorporated
2- Straight forward telescope, 0 degree enlarged view
3- Forward Oblique Telescope, 30 degree enlarged view

Trocar & Cannula (Autoclaveable, dismantable and reusable)

Trocar & Cannula size 11mm- 4 (Valved)

Trocar & Cannula size 6mm- 06 Nos.

1. Cannula size: 11mm diameter; should have multifunctional valve and automotive valve to prevent damage of sharp instruments. It should have stopcock for CO2 insufflation.
2. Trocar should have pyramida tip with pin holes near the tip for safety outlet of CO2 gas. The working length of the cannula should be 100-110 mm.

Trocar under optical vision-2 each

1- Trocar with endo tip size: 10mm, cannula rotatable with multifunction valve, working length: 11 cm.
2- The endo tip cannula should compartible with 10mm telescope for under vision entry into peritoneum.

Veress Needle-2 -Working length 13cm with luer lock.

Accessories & Instruments (Autoclaveable, dismantable and reusable)

Length-36 cm, 5mm

1- Grasping Forcep Fenestrated-2
2- Grasping Forcep Fenestrated curved Fundus grasper-1

3- Grasping Forcep Atraumatic Hartmann pouch-1
4- Bowel Grasping Forcep-2
5- Unipolar Curved Marryland dissescting and Grasping Forcep-2

6- Insert Forcep Unipolar: Insert forceps only Marryland type curved atraumatic jaw compartible with main Kelley curved dissecting forceps-2
7- Unipolar curved Right angle dissecting and Grasping Forceps-2
8- Unipolar Tooth Grasping forcep-2
9- Scissor curved unipolar length of blade 12mm, connection for unipolar HF cable,-2
10- Bipolar Scissor - 2
11- Insert curved scissor- Scissor curved inset to fit with main curved scissor-2
12- Hook Scissor Unipolar-2
13- L Hook with unipolar HF connection-2
14- Spatula with unipolar HF dissector-2
15- Puncture Needle, size : 5mm, length 36cm-2
16- Claw Forceps, 10 mm claw forceps, 2x3 teeth short with ratchet-2
17- Spoon Forceps, 10mm without ratchet-2
18- Heavy Duty Bipolar Forceps length : 36cm, rotating, wide jaw with spare insert and handle. Suitable bipolar HF cable 2 Nos. to be included along with it-2
19- Bipolar HF Connecting Cable-2
20- Unipolar HF Cable-Unipolar HF cable suitable to connect with forcep and electrosurgical unit-2
21- Clip Applicator-Medium Large clip applicator dismantable rotating size: 10mm, length 36cm, for Titanium clips with ratchet to lock the jaw holding the clip-2
22- Clip Applicator- Large clip applicator dismantable rotating size: 10mm, length 36cm, for Titanium clips with ratchet to lock the jaw holding the clip-2
23- Titanium Clips- Titanium clips medium large & Large, box with 16 sterile cartridges, 10 clips each for use with clip applicator-10
24- Two Way Suction irrigation cannula, size: 5mm&10mm each with special handle with trumpet control for irrigation and suction with silicon tubing-2 each
25- Babcock Grasping Forceps, metal handle, rotating, dismantling in 3 parts (insert, outer tube, handle),with connector pin for unipolar coagulation, size 5mm, length 36 cm – 2 no
26- Babcock Grasping Forceps, metal handle, rotating, dismantling in 3 parts (insert, outer tube, handle),with connector pin for unipolar coagulation, size 10mm, length 36 cm – 2 no
27- Micro Hook Scissors, rotating, dismantling in 3 parts (insert, outer tube, 01 handle),with connector pin for unipolar coagulation, size 5mm, length 36 cm – 2 no
28- Reusable Hem-o –lock clip applicator – 5 mm (green) - 1 no
29- Reusable Hem-o –lock clip applicator – 10 mm (purple) – 2 no
30- Reusable Hem-o –lock clip applicator – 10 mm (black) – 1 no
31- Vascular Clamp applicator size 10mm length 32cm for use with deployable vascular clamps consisting of Inner Rod, outer tube – 1 no
32- Deployable Vascular clamp, Parallel -action jaws length of jaws 5cm size 10mm overall length 11cm for use with vascular clamp applicator – 1 no
33- Deployable Vascular clamp, Parallel-action jaws length of jaws 5cm size 10mm overall length 11cm for use with vascular clamp applicator – 1 no
34- Laparoscopic SATINSKY Clamp short version length of jaws 8cm depth of jaws 2cm straight sheath size 10mm, length 30cm with axial ring handle ratchet with security locking device – 1 no

35- Laparoscopic SATINSKY Clamp short version length of jaws 8cm depth of jaws 5cm straight sheath size 10mm, length 30cm with axial ring handle ratchet with security locking device – 1 no
36- Laparoscopic SATINSKY Clamp short version length of jaws 8cm depth of jaws 5cm curved sheath size 10mm, length 30cm with axial ring handle ratchet with security locking device – 2 no
37- Cleaning Brush, length 35cm, 0.0 - 7mm – 2 nos
38- Cleaning Brush, length 35cm, 0.0 - 2.5mm – 2 nos
39- Cleaning Brush, length 50cm, 0.0 - 11 mm – 2 nos
40- Cleaning Brush, length 50cm, 0.0 - 7mm – 2 nos
41- Oil Dropper 38 - 1 no
42- Oil for Instruments, Bottle of 50ml – 4 nos
43- Special-Lubricant for stopcocks - 4 nos
44- Duraglit for polishing metal sheaths and instruments – 2 nos
45- Hydatid cannula – 1

Needle Holder –Macro needle holder with tungsten carbide insert, ergonomic pistol handle, with disengageable ratchet, jaw curved to left, size : 5mm, length: 33cm for use with suture material size: 0/0 to 7/0-2

Fan retractor-Fan retractor with simple opening of the fan by axial movement of the outer sheath, dismountable and distendable, size:10mm, length: 36cm-1

CUSHERI Liver retractor- size : 10mm & 5mm; Length: 36cm- 1each

Hassan Cannula-1

Knot Pusher (Open) reusable-2

Knot Pusher (closed) reusable-2

Port closure Needle-2
Straight Scissors 5mm -2
L-Hook with unipolar HF connection and provision to attach suction -2 ,
Needle holder self riding type – 5mm -2

SUCTION & IRRIGATION DEVICE-1

1. Compact suction and irrigation unit having Irrigation pressure not less than 400mmHg & Suction pressure not less than (-0.75mmHg).

2- The unit should be supplied with 1.5 litre glass bottle with bottle cap and stand ; the unit should be supplied with 1.0 Litre irrigation bottle sterilization in autoclave with bottle cap attachment to connect tubing.
3- The unit should be supplied with reusable irrigation and suction silicon tubing set 2 Nos. each.

Laparoscoopic Instrument Tray Compatible with 3mm,5mm,10mm instrument-3

Sterlization/Disinfection Tray having sieve tray to lift. Size: 27”x7”x5”(LXBXD)-4Nos

Formaline Chamber made of Virgin Acrylic 4.5mm thickness; size 26”x8”x8” (LxBxH) with three tray, for sterilizing the laparoscope, preferable with three tray

Should be US - FDA/European CE approved product,

Manufacturer/Supplier should have ISO certification for quality standards.

Item No. 20

Anaesthesia Work Station

1. Existing Specification:

Para 3.1.3: Multi-color TFT display of **at least 12” size**, with virtual flow meters for O2, N2O or Air

Read as:

Para 3.1.3: Multi-color TFT display of **at least 8” size**, with virtual flow meters for O2, N2O or Air

2. Existing Specification:

Para 3.2.3: Flow sensing capability at inhalation and exhalation **ports,** sensor connections shall be internal to help prevent disconnect

Read as:

Para 3.1.3: Flow sensing capability at inhalation and exhalation ports**/Y-Piece**. **sensor connections shall be internal to help prevent disconnect**

3. Existing Specification:

Para 3.4: Ventilation

1.The workstation should have integrated Anesthesia Ventilator system.

Read as:

Para 3.4: Ventilation

The workstation should have integrated Anaesthesia Ventilator system. **Should not require change of bellows for neonates.**

4. Existing Specification:

Para 3.4 4: The workstation should be capable of delivery of low flow anaesthesia.

Read as:

Para 3.4 4: The workstation should be capable of delivery of low flow **and minimal flow anaesthesia even at 350ml of total fresh gas to reduce the agent consumption.**

5. Existing Specification:

Para 3.4 5: Ventilator should be capable of **atleast 120-150 L/min** peak flow to facilitate rapid movement through physiologic "dead space" in the Pressure Control mode

Read as:

Para 3.4 5: Ventilator should be capable of **atleast 100 L/min** peak flow to facilitate rapid movement through physiologic "dead space" in the Pressure Control mode

6. Existing Specification:

Para 3.5(i): Should include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anesthesia event using standardized menu based entries.

Read as:

Para 3.5(i): Should include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anesthesia event using standardized menu based entries. **(Optional).**

7. Existing Specification:

Para 3.5.1.d: Depth of Anesthesia Monitoring module - one per monitor with 50 sensors with each monitor

Read as:

Para 3.5.1.d: Depth of Anesthesia Monitoring **BIS module** - one per monitor with 50 sensors with each monitor

8. Existing Specification:

Para 3.5.1 e. Neuromuscular Transmission Monitoring with all accessories. One set with each monitor

Read as:

Para 3.5.1 e: **Inbuilt** Neuromuscular Transmission Monitoring Module with all accessories. One set with each monitor

9. Existing Specification:

Para 3.6 Centralised Monitoring and Networking:

Read as:

Deleted

10. Existing Specification:

Para 3.6 1: Central Monitor with Ethernet Networking of all the OT Monitors with Laser Printer and with client computer in office of Doctor Incharge , for browsing real time waveforms, graphical & numerical trend upto 24 hrs, from each OT Monitor.

Read as:

Deleted

11. Existing Specification:

Para 4.5: Vaporiser Halothane -01

Read as:

Deleted

12. Existing Specification:

Para 4.9 Reusable IBP Transducer -04

Read as:

Deleted

13. Existing Specification:

Para 6.3: Suitable Servo controlled Stabilizer/CVT

Read as:

Deleted

14. Existing Specification:

Para 7.1 Should be **FDA or CE** approved product

Read as:

Para 7.1 Should be **USFDA or European CE** approved product

Added Para:

1. Multipara Monitor should have minimum 15" TFT touch screen colour display
2. Should have closed loop feedback control system that continuously measure the concentration of anesthetic gases and assist the setting of fresh gas flows and agents.
3. Added as Para 4.21: Vapourizer Desflurane – 01 no
4. Point no.3.4: Ventilator should have minimum or no driving gas consumption. Machines with low gas and agent consumption will be preferred.
5. Ventilator data like waveform for flow, pressure, agent, EtCO2, oxygen and loops, trends display should be available on the patient monitor.
6. Ready to run web based application like PACS,HIS,RIS,LIS,electronic anaesthesia charting,etc. as standard feature.
7. The vaporizer should not require any calibration in its life time.
8. Breathing system should have integrated warming system facility.

Item No. 21
Plasma Sterilizer

1. Existing Specification:

Para 3.4 The size of the sterilizer should be 160 – 180 liter with a usable volume of 100-120 liters.

Read as:

Para 3.4: The Sterilizer should be **Rectangular/Square** Chamber with usable Volume of 100-120 Litres.

2. Existing Specification:

Para 6.1 Power input to be **220-240V AC,** 50Hz fitted with Indian plug

Read as:

Para 6.1 Power input **Single phase or 3 phase,** 50Hz fitted with Indian plug.

3. Existing Specification:

Para 6.3 Suitable UPS with maintenance free batteries for minimum one-hour back up should be supplied with the system

Read as:

Deleted

4. Existing Specification:

Para 7.2 Should be **FDA, CE, UL or BIS** approved product

Read as:

Para 7.2 Should be **USFDA or European CE** approved product

5. Added Para:

Should be supplied with accessories to specification like instruments tray of all size and consumables to run atleast 100 cycles of sterilisation.

Item No. 22

ULTRASONIC ENERGY CLEANER (High load)

1. Existing Specification:

Para: Having **automatic opening** lids and safe instrument loading trays in the dual tanks of not less than 40 Litter capacity

Read as:

Para Having **automatic/manual opening** lids and safe instrument loading trays in the dual tanks of not less than 40 Litter capacity

2. Existing Specification:

Para: To achieve high degree of fast and efficient cleaning, the ultrasonic waves generators in the wash tank should provide min. 750 Watts of sonic power and transducers should not be operating at less than **100kHz**

Read as:

Para: To achieve high degree of fast and efficient cleaning, the ultrasonic waves generators in the wash tank should provide min. 750 Watts of sonic power and transducers should be operating at more than **25 KHz.**

3. Existing Specification:

Para: Should have facility to inject **instrument lubrication spray automatically** during rinse.

Read as:

Para: Should have facility of **manual or automatic instrument lubrication**.

4. Existing Specification:

Para: Electrical Service – 220 VAC , 50 Hz

Read as:

Para: **Single phase/three phase power supply**, 50 Hz

Item No. 23

Paediatric Cystoscope And Resectoscope

The existing technical specification is replaced by the following technical specification:

Item No. 23

Paediatric Cystoscope / Resectoscope

1.) Cystourethroscope for Neonates and Children

A). Telescopes:

1.Telescope (one each) Autoclavable 134 ° C / 273°F with enlarged image & brightness size 1.9 mm, 0o (view angle) with working Length 20 cm- 01No.

2. Telescope (one each) Autoclavable 134 °C, 273°F With enlarged image and brightness, size 1.9 mm, 25° (view angle) with working Length 20 cm - 01No.

B). Sheath with obturator with fixed irrigation channel with stop cock

1. Size 7.5 Fr. (one each) for diagnostic use compatible with 0 ° telescope
2. Size 8.5 Fr. (one each) with instrument port capacity 3Fr.
3. Size 9.5 Fr. (one each) with instrument port capacity 4Fr.

2.) Resectoscope - for Neonates and Children

A. Sheath with obturator with fixed irrigation channel with stopcock with distal end insulated Size 9 Fr. (one each) with instrument port capacity 3Fr.

B. Working element (bridge) with spring controlled thumb support and with monopolur cable attachment port and one port for telescope and one slot for working element- 01 Nos.

C. 1.9 mm 0 ° telescope to match the Resectoscope and working element – No 1

3.) Cystouretheroscope for children

A Telescope

Telescope - Autoclavable 134 °C/ 273 °F, with enlarged image and brightness Size 2.7 mm, 0° - 01No.

B Sheath with obturator with fixed irrigation channel with stop cock

1. Size 12 Fr. (One each) - with 4 Fr insert capacity.

2. Size 13 Fr. (One each) - with two instrument ports capacity (one port must 5 Fr)

4). Resectoscope - for Children

A. Sheath with obturater with fixed irrigation channel with stopcock with distal end insulated

Size 11.5 Fr. (One) - With instrument port capacity 3 - 5 Fr.

B. Adaptor (Bridge) (one) For examination without instrument port

4. Light source (one), Xenon – 300
5. Full HD Camera with universal coupler & camera consol and recording facility.
6. 24” or more LCD/TFT Medical grade HD monitor.
7. High frequency monopolar cable (2).
8. Telescope protection sheath.
9. Instruments tray for above mentioned scope.

Note:

1. Equipment should be US FDA or European CE approved product.
2. Supplier company will have to give training to doctors and staff of operation theatre, regarding the handling and maintenance of the instrument.
3. Suitable trolley for above mentioned items.

Item No. 24

Ultrasonic Cutting and Coagulating Device

The existing technical specification is replaced by the following:

Ultrasonic cutting and Coagulation device

Should have following features and accessories:

1	**Description of Function**
1.1	Ultrasound is the basis for an efficient surgical instrument: the cuts and coagulates by using lower temperatures than those used by electrosurgery or lasers. Controls bleeding by coaptive coagulation at low temperatures ranging from 50°C to 100°C: vessels are coapted (tamponaded) and sealed by a protein coagulum. It should not be combined with any other energy source.
2	**Operational Requirements**
2.1	The system is should be used for Laparoscopic & open Procedures which should operate at the same frequency.
3	**Technical Specification**
3.1 1.	Ultrasonic generator generating ultrasound frequency in between 35-70 KHz
2.	Hand-piece with transducer & silicon cable
3.	Capability of being operated by hand control or foot switch.
4.	Single/Dual foot-switch attachment
5.	Stand-by mode for better safety
6.	System diagnostics and trouble shooting guide
7.	Warning system for malfunctioning cable, probe etc (Audible/ Visual)
8.	It should not interfere with other electromagnetic devices.
9.	It should have a horizontal/torsional vibration
10.	Should be capable of sealing vessels 5-7mm in diameter
11.	Should have different audible tone settings for different modes
4	**System Configuration Accessories, spares and consumables**
4.1	Accessories:
	1. Foot-switch with cable.
	2. Cart to house the generator and accessories

	3. Handpiece compatible with all the accessories
	4. Connector compatible with vessel sealing devices and handpiece
	5. Output verification key
	6. Sterilization tray
	7. Test tip for all type of hand piece
	8. Torque lock blade
	4. Open surgery Instruments:
	a. Curved shear with shaft length 7cm or more – 3 b. Curved shear with shaft length 15cm or more – 3 c. Tissue (vessels) sealer 35-40mm curved jaw with 10-12mm shaft diameter and 20 -22cm shaft length – 3 d. Blade – curved 3mm shaft diameter with shaft length 4-9 cm-3 e. Blade – Hooked 3mm shaft diameter with shaft length 4-9 cm - 3
	5. Endoscopic surgery Instruments:
	a. Curved shear 5mm shaft diameter with shaft length 45cm or more -5 b. Coagulation curved shear with shaft diameter 5 mm and shaft legth 35 or more – 5 c. Tissue (vessel) sealer curved with shaft diameter 5mm and shaft length 45cm or more -5 d. Tissue (vessel) sealer straight with shaft diameter 5mm and shaft length 45cm or more -5
	6. Any Other compatible Accessories have to be offered if any.
5	**Environmental factors**
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6	**Power Supply**
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
7	**Standards, Safety and Training**
7.1	The generator must be CF isolated applied device and defibrillator protection must be available.
7.2	Should be USFDA/ European CE approved Model.
7.3	Manufacturer should have ISO certification for quality standards.
8	**Documentation**
8.1	User/Technical/Maintenance manuals to be supplied in English.
8.2	Certificate of calibration and inspection.
8.3	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 equipment should be available for demonstration in case required

8.4	The equipment should be available for demonstration in case required
8.5	The equipment should have 95% uptime. If downtime exceeds 5 % in a calendar Year, Warranty will exceed for double the number of days.

Item No. 25

Digital X-Ray Unit (1000 mA)

1. Existing Specification:

Para: The unit should be completely integrated system (integrated X ray generator and image acquisition control console)

Read as:

Para: The unit should be completely integrated system (integrated X ray generator and image acquisition control console) having the following specifications. **Any two components out of three (X-Ray tube, X-ray Generator and Flat panel detectors) should be from the same manufacturer of the main (Complete) system.**

2. Existing Specification:

Para 3: Horizontal Bucky Table-- Foot switches for – adjusting height, longitudinal/side to side movements, locking, **light adjustment.**

Read as:

Para 3: Horizontal Bucky Table-- Foot switches for – adjusting height, longitudinal/side to side movements, locking.

4. Existing Specification:

Para 4: Vertical Bucky- Vertical detector system should be tilt table (-15˚ to + 90˚) and should travel from **1' to 6 ½'** above floor level.

Read as:

Para 4: Vertical Bucky- Vertical detector system should be tilt table (-15˚ to + 90˚) and should travel from **1' to 6'** above floor level.

5. Existing Specification:

Para 5. Detector System-Image matrix size **3k y 3k pixels**

Read as:

Para 5: Detector System-Image matrix size **2k X 2k pixels**

6. Existing Specification:

Para 5: Detector System: Minimum size of detector must be **14"x17"**

Read as:

Para 5: Detector System: Minimum size of detector must be **40 cm X 40 cm**

7. Existing Specification:

Para 7. Image Viewing and Reporting Station and Documentation - Should be connected to a Dry chemistry Laser Camera of at least **600 DPI** for documentation. The camera should accept all size films up to 14"x17" size.

Read as:

Para 7. Image Viewing and Reporting Station and Documentation - Should be connected to a Dry chemistry Camera of at least **500 DPI** for documentation. The camera should accept all size films up to 14"x17" size.

8. Existing Specification:

Para 9. Dry chemistry laser camera with at least **600 DPI** resolution to take all size of films up to 14"x17" size

Read as:

Para 9. Dry chemistry camera with at least **500 DPI** resolution to take all size of films up to 14"x17" size

9. Existing Specification:

Para 9.a.-Image composition accessory should be available to allow acquistion of whole spine & extremity images.
Para 9. b. - Any other accessory useful for trauma work should be mentioned
Para 9. c. : Optional items i) Digital Tomography

Read as:

Deleted

10. Added Para:

The unit must be US FDA or European CE approved.

The unit should be AERB type approved. The AERB certification will be the responsibility of the supplier.

Item No. 26

Clinical CE/IVD Flow Cytometer

1. Added Para:

The unit must be US FDA or IVD or European CE approved.

All other contents of the Tender Enquiry Document including terms and conditions of the tender enquiry remain unchanged.