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NO: HFW-H(SLBSGMCH)/**e-Tender/2018-19-13007-13009** **DATED: 19.08-2019**

Corrigendum

This is in continuation of tender **ID No 2019_DMEHP_30584_1** for the e tender for procurement of machinery and equipment for the department of General Medicine at SLBS Govt. medical college Mandi at Nerchowk published/e-tendered Vide **NIT No HFW-H(SLBSGMCH)e-Tender/2018-19-12013-15 on 30/07/2019**.

- The maximum amount of EMD shall be 3,00,000, (Three Lakh only)
- The following amendments/change has been made in the technical specification after pre bid meeting.

All Technical Specification read is as under:-

Sr. No.	Item Name	Technical specification	Qty.
01	**Defibrillator**	• The Defibrillator must be based on Bi-Phasic technology • It should work on AC Main (220-240V/50-60Hz) with rechargeable battery backup of Min 3hours or More of monitoring or the capability of deliver 100 shock of 200 joules each • Portable unit with a weight 9 Kg or Less than 9 kg. • 5.7 inches or more. LED Multi Color display with at least 2 channels display. • System- Energy selection 1 to 200 joules. • Defibrillator charging time less than 5 seconds • Unit ability for synchronized cardio version and asynchronised cardio version • Should work on both manual and automated external defibrillation Mode (AED) up to 200 joules or more.. • Monitored parameters: Min 3 lead ECG, and Spo2 (pulse oximetry)and NIBP • The equipment should be upgradeable to ETCO2 • The unit should have facility of external cardiac pacing (optional) • Certification: unit USFDA or European CE approved. • Alarms: unit an adjustable heart rate alarm, disconnection alarms for the paddles and ECG Cable and low battery. • The unit should have an inbuilt recorder • The unit be supplied with: 1. Adult and pediatric chest paddles -1Nos 2. ECG 3/5 lead cable -2Nos 3. Adult and Pediatric Spo2 sensor -2 No's each 4. Thermal printer paper roll-10Nos • Warranty 5 year and 5 year CMC and will start after the successful installation of the equipment • The equipment should be a latest model with undertaking of this. • Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 safety of electrocardiograms. (OR EQUIVALENT BIS Standard) • Should conform to international test protocols on exposure to shock forces and to vibration forces. The standard should be documented clearly. • Should meet IEC 529 Level 3 (IP3X • The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/ Maintenance manual. There should have local service facility in nearby city. • Comprehensive warranty for 5 years with CMC provision for next 5years. Spare parts should be available in this duration. • Documentation • 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	06

		authenticated catalogue/ manual, will not be considered. • User Manual and Service manual in English • List of important spare parts and accessories with their part number and costing to be available. • Certificate of calibration and inspection from factory. • 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.	
02.	**Cardiac Biomarker test Equipment**	• The equipment should be light weight, not more than 1kg. • The equipment should be operable via AA batteries or AC/DC Converter • The equipment should have Numeric Key pad with special function keys. • The equipment should have detector to identify the kit. • The equipment should be based on Fluorescence Immunoassay method • The equipment should be capable for >500 patients record • Cartridge should be capable for quantitative and qualitative determination of Troponin-1, BNP, NT-Pro BNP,CKPMB, myoglobin and D-Dimer. • The equipment should have common computer interface port for HIS/LIS connectivity. • The equipment should have inbuilt Thermal Printer with acceptability of commonly available thermal paper of appropriate size. • The equipment should preferably have LCD screen display with backlight support. • The equipment should provide result in not more than 20 minutes • The equipment should be upgradeable for further biomarker assay. • The equipment should have USFDA/CE certification • The equipment should be with Five years of warranty and 5year of CMC • The Consumables should be easily available The demonstration and installation of the equipment is must	02
03.	**Blood Gas Analyser**	• Should measure blood gas parameters pH, pCO2, pO2 • Should measure electrolytes such as Na, K, C1-, Ca++ • Should measure metabolites as Glucose, Lactate etc. • Should also measure Oximetery parameters Hb and SpO2 directly not calculated • Should be based on Fluorescence and Reflectance technology or amperometery,cunductometery and potentiometery technology(Optional) with long life of inbuilt and purely maintenance free optical electrodes (optodes) • Should not need any individual electrodes for measurement of all above parameters. • Should have the measured Barometric pressure (Range 300 to 800mmHg)not input parameter • Should have all important derived parameters (more than 15calculated parameters) i.e. HCO3-, St HCO3-, ABE, SBE, AaDO2, Anion Gap, St Ph, nCa++,Hct, Temperature corrected pH, pCO2, PO2 etc. • Should have input parameters like Temperature, FIO2, Patient ID, Operator ID etc. • Should have single test cassette based with the different parameters configuration • Should require less than 150µ sample volume • Should be a portable system with the 6-8 hours rechargeable battery backup • Should be able to aspirate sample automatically or manual injection • Should be able to perform whole blood / plasma/ serum samples • Should be able to handle the syringe and capillary samples both • Should have a shelf life of all consumables at least four to six months or longer • Should be able to store most of the consumables at normal room temperature • Should have built in thermal printer • Should have reusable tri level Quality Controls and as well as liquid quality controls • Should have touch screen with the statistics intuitive graphic window display for easy operational/data entry/ menu access • Should be able to collect the waste inside the single test cassette itself • Should have the RS 232 port for transferring the data to computer directly in excel format and can be easily used for view, print and delete. • Should be FDA/ European CE approved • Should be upgradable for the new updated features • Consumables should easily available. • Should have 5 years of warranty with 5 years of CMC. • Demonstration and Installation of the equipment is must	01

04.	**Continuous/ Bilevel Positive Airway pressure Non-invasive Ventilator**	Operational Mode: Continuous/Bi level positive Airway Pressure Non-invasive ventilator in Spontaneous and Timed (S/T) Mode, Spontaneous, PC (Pressure control),T (Time), Assured Volume with Auto EPAP Pressure Range: EPAP4-25cm of H2O or better AND IPAP 4-≥20CM H2O Digital Display: should display IPAP and EPAP Breath rate 0-40 bpm or better Ti : 0.5sec to 3 sec Target Tidal Volume 200-1500 ml Rise time should be minimum 100ms-600ms or more Leak rate 60 liters/minute. Highest flow should be more than 160 liters /minutes. Monitoring Pressure, Tidal Volume, Minute Ventilation, Respiratory rate, Leak rate, I/E ratio. Should also have a pressure bar graph and patient trigger indication Should provide flow based pressure relief at transition from exhalation to inhalation, transition from inhalation to exhalation and during exhalation Triggering and cycling : Automatic trigger, Sensitive and manual flow trigger. Volume Assured Pressure support technology for assured tidal volume Should have automatic EPAP and automatic respiratory rate to overcome airway resistance Should have Apnea, Low minute ventilation, low tidal volume. High respiratory rate , patient disconnection alarm Heated Humidifier : should be of International Standards Noise level should be less than 30 db. Electrical Requirement: 230-240Volt AC, 50/60Hz Weight: Less than 2.5kg Should have detachable battery backup of minimum 4 hours Should be supplied with oxygen enriched port for supply of supplementary oxygen Should have re-write SD cards with preset parameters(standard) settings for different modes for different patient diseases. Device should have capability to record events logs more than10000 Should be provided with latex free full face mask I no, Hose pipe 1no., carry bag, FIO2 monitoring Kit **General Specifications** 1. A single price should be quoted to include the non-invasive ventilator, the heated humidifier, reusable hose pipe, expiratory connector (if required), nasal mask, filter of each type, power cord, operating manual and any other accessories required to make the equipment fully functional. 2. The company must quote for provision of a comprehensive warranty for services and spares for 5 years. The warranty will commence from the date of satisfactory installation. 3. Unit Price of consumables should be quoted separately which is valid for minimum 5 years. 4. Quoting firm must have a service centre in Himachal/Chandigarh and the equipment should have USFDA/European CE certification 5. The company must submit authorization certificate from the principal/ manufacturer. 6. The company should assure the availability of spares and consumables for next 5 years. 7. The company must submit a proof of the equipment being of national or international standards of quality having a certification from USFDA/European CE Quality Control. 8. Proof of technical specifications should be clearly available in the equipment's original brochure or catalogue. 9. Compliance report should be mentioned point by point for all the specifications.	04

05.	**Direct Ophthalmoscope**	1. With Xenon light. 2. Dust Proof Housing. 3. Multiple Apertures including cobalt blue filter, red free filter, Fixation star, large Spot, small spot, pinhole, slit, Hemi spot. 4. Two spare Bulbs with each Ophthalmoscope 5. Carrying case for Ophthalmoscope. 6. CE certified.	08
06	**High End TMT Machine**	**1.** High end TMT machine having Bruce modified Bruce, Naughton protocols, Cornell protocols, (total of at least 5 protocols). **2.** ECG display of 12 leads with option of 6 leads display. **3.** Should have continuous display of the updated RAW and averaged 12 lead with the maximum ST depression. **4.** ECG gains of 5, 10, and 20mm/mv. **5.** Facility to eliminate artifact due to respiration, muscle, and baseline wander, noise and AC interference. **6.** User selectable J and E point ST 60 and 80. **7.** Continuous display of ST level, ST slope, heart rate and METS. **8.** Automated report display in tabular and graphical forms. **9.** Report should include ST/HR index. **10.** Ability to automatically record and display arrhythmias. **11.** In built and display monitor of at least 18 inches or more. **12.** Heavy duty Treadmill with safety railings interiorly and on the sides. Tread mill should be of original make of the company quoted. **13.** Minimum walking area of 1500mm x 500mm. **14.** Able to handle patient weight up to 120 Kg. **15.** Should have been used in India for at least one year. **16.** The equipment should be USFDA & EUROPEAN CE approved. **17.** Attached non-invasive blood pressure monitor. Additional three sets of NIBP cuff should be supplied Along with the TMT machine.. **18.** Two sets of additional cables to be supplied along with TMT machine. **19.** 100 electrodes to be supplied along with TMT machine. **20.** The equipment should have SAECG software, Vector Cardiography software, QT dispersion and late potential analysis software. **21.** Information of the installed machine in medical centre should be submitted along with specifications. **22.** 500 packets of TMT Thermal/laser recording paper along with one printer should be supplied with TMT machine. **23.** Cost of the TMT Thermal/laser recording paper packets used in the TMT machine should be quoted as an optional. **24.** System should have storage capacity to save data of at least 500 patients and should have CD system to save and report data. **Optional if available to be quoted separately** **1.** Facility of pediatrics stress test. **2.** Measurement of T wave alterans. **3.** Wireless transfer of ECG from patient to monitor. **Note:-**The technical bid should be supported with documentary proof and compliance should be given. The price bid has to be separate and optional items if any should be quoted separately. The Bidder will provide space for the installation of the equipment and if any modification /alteration or preparation of the site is required it will be done by the company.	**01**
07	**Portable Echocardio-graphy Machine with Doppler**	**Technical Specification for portable Echocardiography Machine with Doppler** **1.** The system should be a state of the art High end digital technology system with all advanced imaging features. **2.** Should have a high resolution TFT monitor having screen 15" inches or more. **3.** The system should have the facility for high-resolution 2D, 3D live, M Mode, PW, CW, Color flow imaging, tissue Doppler imaging and speckled track strain imaging. **4.** Should have color compare mode (color mode and normal gray-scale mode simultaneously). **5.** The system should have zoom facility. **6.** There should be following transducers with the machine: • One standard Cardiac probe	**1**

		• Linear probe for peripheral vessels • The equipment should be upgradeable to TEE probe(the price if any may be quoted separately) • Should have one touch image optimization and automatic real time Doppler tracing. 7. The system should have an easy to use control panel with alphanumeric keyboard, illuminated keys and status display. 8. The system should have facility for gain adjustments using slide pot controls. 9. Data entry should be possible by key board. 10. Should have image management facility with facility for direct storage of images and loops in the hard disk drive and options for review and edit images, loops and reports. 11. The system should have the storage capacity for at-least 50 patients' data with an option of removable storage and transfer image via USB ports. 12. Should have ECG and respiratory phase input on screen. 13. The system should measure all essential parameters like diameter, area, ejection fraction etc. 14. Should have automatic quantification of Doppler parameters to display user selected measurements. 15. The unit should be sturdy, 16. Should have all possible software packages for calculations. 17. System should be US FDA/European CE approved 18 The same machine must have been installed in India earlier and its satisfactory installation & working certificate in India. 19. Certificate from the primary manufacturer for maintaining of the equipment/machine for at least ten (10) years have to be attached. 20. The machine should come with required in-built electrical stabilizer and should be compatible with standard Indian electrical sockets. 26. It should have standard electrical safety norms. 2 21. The machine should carry 5 years of warranty and 5 years of CMC, the rates should be quoted separately in detail 22. Cost of important soft ware/ accessories like transducers to be quoted separately also. 23. The service center with easy availability of spare parts and the technical staff should be located nearby 24. Demonstration/training for the use of the machine is must. 25. Should have user manual and service manual in English 26. The machine should be mounted on a stand/ trolley of the same company with wheels. **Note:-** The technical bid should be supported with documentary proof and compliance should be given. The price bid has to be separate and optional items if any should be quoted separately. The supplier has to give the latest version of the specifications, if any advancement occurs in the software it has to be installed free of cost, if there is any hardware introduced then it has to be brought to the notice of the tendree who reserve the right to buy it or not. The warranty of the equipment should be quoted and rate of AMC/ CMC should be quoted separately. The tendree will provide space for the installation of the equipment and if any modification /alteration or preparation of the site is required it will be done by the company. The successful bidder has to arrange for the basic training on the equipment.	
08	**Vital Sign Monitoring system**	1. **Modular vital sign monitoring** system for **6 ICU beds** with**1 central monitoring stations** and two (**2) portable monitors** for transport with patients. **2. Specification of Bedsides Modular vital sign monitoring units** **a.** Capable of monitoring ECG, invasive blood pressure (IBP), respiration, SpO2,Pleth variability Index(PVI), perfusion index(PI) temperatures, Non-invasive blood pressure (NIBP), **b.** User-selectable and adjustable alarms with varying tones indicating the severity of the alarm. **c.** Display **i.** High-resolution color flat TFT screens at least 19 inches size or more, capable of displaying at least 7 or more wave forms with digital display of the rest of the parameters continuously **ii**. Ability to overlap waveforms. **iii** Should have Facility to enlarge numeric display to be visible at least from 10 feet	**6**

iv The monitor should have non volatile internal memory to store patients trends in graphical and tabular format at least for three days.

v. All alarms silence facility should be there for desired time.

vi. the equipment should be able to connect to direct laser printer and should also have the facility to download the trends in a pen drive so that it can be retrieved and analyzed without help of proprietary software

iv. Individual modules – the following is the description of the modules required at each bedside unit or as otherwise specified.

1. ECG -

a. One module per bedside unit

b. 12 lead ECG monitoring and display option should be there.

c. Facility to attach 5 and 3-lead ECG.

d. Simultaneous display at least 7 leads in ECG view mode.

e. Arrhythmia monitoring and analysis software.

f. Integrated multi-lead ST segment analysis with display.

g. Voltage calibration facility.

h. Facility to Freeze display of ECG.

i. Defibrillator and electro cautery protected.

j. Variable speed display 12.5,25 and 50mm/sec.

k. Should have facility for ST Mapping, QT analysis and HRV analysis

l.

2. Masimo/Nellcore SpO2

a. One module pre bedside unit
b. Display of plethysmographic wave form and signal strength indicator.
c. Auto sizing of wave forms.
d. Saturation-dependent pulse tone.

3. Respiration

a. One module per bedside unit.
b. Capable of measuring respiratory rate between 1 to 80bpm.
c. User adjustable alarms.
d. Apnea alarm adjustable between 10-30 sec.

4. Temperature

a. Module with capability to monitor two temperatures per bedside unit.
b. Accuracy± 0.5˚C
c. Resolution 0.1˚C
d. Simultaneous display of two temperatures.
e. Adjustable alarms

5. NIBP

a. One module per bedside unit
b. Should monitor children, infants and neonates.
c. Manual, auto and stat modes.
d. Total cycle time not more than 30sec.
e. User adjustable alarms for systolic, diastolic and mean pressures.
f. Reusable cuffs in appropriate sizes for children, infants and neonates for both arms and thigh sites, along with appropriate tubing.

6. The equipment should be upgradeable or should have optional module

1) Invasive Pressure

a. Two modules per bedside unit.

b. Measurement range from 10mmHg to more than 300mmHg.

c. Ability to monitor arterial, venous, pulmonary artery, left and right atrial pressures.

d. Accuracy ±2mmHg

e. Zeroing with single key.

f. Ability to monitor pulse pressure variation (PPV) with display.

2)

A) Cardiac Output

a. One module at each bedside unit.

b. Minimal invasive monitoring of cardiac output from arterial waveform analyses /other reliable minimal invasive technology and continuous display.

c. Hemodynamic calculation facility.

d. It must be possible to cove the module to other bedside units without switching off the unit (hot swappable).

B) BIS/ Entropy with EEG waveform display facility

a. BIS or Entropy monitoring module

b. Reusable electrode system leads/accessories)2 sets with each module) along with 10 sets of disposable electrodes.

c. It must be possible to move the module to other bedside units without switching off the unit (hot swappable).

3. **EtCO2**

a. Side /micro stream/main capnometer at all bedside units.
b. Display in both digital and wave form.
c.Auto calibration without requirement of external gas source.
d. High /low valve adjustable alarm facility.

iv. Essential Accessories(for each of the peripheral monitors)

1. 2 sets of ECG leads and cables with each monitor
2. 3 pediatric, 3adult cuffs and tubing's per bedside unit for NIBP monitoring i.e.
3. 3 pediatric reusable finger probes and 3 Adult reusable finger probes and 3ear lobe reusable probes per bedside unit for SPO2 monitoring i.e.
4. 3 cavity (nasopharyngeal / rectal) and 3 skin temperature probe per bedside unit i.e.
5. 4 Cables and 8 disposable transducers per bedside unit for invasive blood pressure monitoring unit
6. Reusable electrode system leads / accessories) 2 sets with each module) along with 20 sets of disposable electrodes to monitor BIS/ Entropy per module supplied – i.e.

3. Central working stations with complete laying down of cable for connecting the peripherals and central station.

a. Simultaneous monitoring and display of 10 beds- at least ECG, invasive blood pressure, SpO2 and heart rate should be Visible for each patient/ bedside monitor.

b. Ability to zoom all parameters from one bedside unit while data of other bedside units is displayed simultaneously.

c. Store and review trends for at least 72 hours.

d . Facility to enter data from the central station.

e. Display: - High resolution colour TFT screen of 26"or more in size.

f. Ability to adjust individual beside unit alarms from the central station.

a. <u>Portable Monitors (Two)</u>

b. Light enough for easy porting

c. compatible with the ICU monitor.

		d. Should have i. Two invasive pressure monitors ii. ECG monitor iii. SpO2 Monitor – with pediatric and adult probes. iv. Nin invasive blood pressure monitor v. Battery life of at least 4 hours. vi. Should display >4 wave forms. vii. Screen size 7.5 inches or more. e. Should be supplied with at least the following for each portable monitor- i. 5 sets of cables for invasive pressure monitoring. The cables should be compatible with the commercially available transducers. ii. 2 sets of both ECG cables and ECG leads. iii. 2 pediatric, 2 adult SpO2 probes. **Power specification:** Should work on 220- 240 Hz power supply. US FDA approved. **Warranty/Service etc.** a. Five (5) years warranty with subsequent five (5) years CMC. b. Warranty and CMC should include all the parts of the equipment.. c. During warranty and CMC period a minimum of 2 supplies of each consumable accessory will be made per year per bedside unit and portable monitors to keep them functional. For additional requirement the price of these consumable items and accessories should be fixed for 10 years. d. Availability or spares for at least 10 years after date of installation. e. Locally available technical manpower. f. During warranty and CMC period the defective monitor must be immediately replaced with a spare temporary one to ensure non-stop function of ICU. g. Maximum down time allowed – 10 hours. **Total down time 6% per year during warranty and maintenance period.** **Note:-The firm will have to demonstrate the equipment at SLBSGMCH for technical approval.** **4.Networking:** a. Networking capability for central and beside units. b. The data transfer for remote access/ web access should be encrypted for security reasons. c. The servers, cables, mounts, racks and any other hardware/ software required should be quoted, supplied and installed by the firm. **5. Battery backup for one hour for the entire monitoring system and networking:-** For the wring layout of power supply points and networking – the firm is required to co- ordinate with SLBSGMC civil engineering department. **Note:-**The technical bid should be supported with documentary proof and compliance should be given. The price bid has to be separate and optional items if any should be quoted separately. The supplier has to give the latest version of the specifications, if any advancement occurs in the software it has to be installed free of cost, if there is any hardware introduced then it has to be brought to the notice of the tenderer who reserve the right to buy it or not. The institute will provide space for the installation of the equipment and if any modification /alteration or preparation of the site is required it will be done by the company.	
09	**Fully Digital Premium Colour Doppler System**	The Trolley based System Should have Fully Digital beam former accepting routine convex and Linear Array Transducers. Transducers should have advanced Micro- pin less connectors. 2. The System should be offered with High resolution 19" inch or more HD LCD/ LED Monitor with swivelling and tilting facility. 3. The Offered System should have More than 50000 digital processing channels and also should have 500fps or more frame rate. 4. The System should have minimum 256 gray level. 5. The System should have minimum of 175 db. 6. Display Modes: With B, 2B, 4B, M Mode, PWD, PDR, Directional PDI and Triplex Mode. 7. Cine Review: Standard cine memory more than 1000 Frames. 8. System should have min 3 or more Active Probe Connectors 9. Transducer: Three transducers required with multi frequency imaging and independent selection	**01**

		of 2D, colour, PW. Preference would be given to Probe cable length of more than 1 Metre. (a) Convex Probe 2-5 MHZ probe with image compounding and THI facility. (b) Linear Probe with Frequency of 4-12 MHz . 10. Image Optimization: System should have one button optimization for B, PWD, CFM, & image post processing technology should be available. 11. Zoom: Min 5 times zoom should be available on image. 12. Measurement: System should have 4 calliper with depth information with extensive measurement and report package including complete OBS & GYN. 13. Image Management: Unit should have min 500 GB or more Built-In HDD and facility to store clips & images. 14. Should have minimum 4 USB port or more, Flash Drive writer and image transfer. 15. Unit should be DICOM compliant. 16. Certification: Unit should be ISO certified (mandatory) and USFDA & CE approved. 17. Digital thermal printer, 2 KVA online UPS with 1 hr battery backup mobile cart for unit. 18. System should be Offered with 5 Years Complete Warranty including all Transducers. 19. Comprehensive AMC Price should be Provided for 5 years Post Warranty Period. 21. Supplier has to provide necessary training after installation of the machine 22. The System depth should be minimum 35 cm	
10	**High Magnification Video Upper GI Endoscope**	**HD Video Upper GI endoscope** Should have built in HDTV compatible CCD with close focus observation facility Should be water proof and fully immiscible in disinfectant solution. Should have in built scope identification memory chip for monitor display of scope's model no. serial no. white balancing memory, no. of connections/cumulative uses etc**.** Working Length 1-1.2 meter Field of View Normal/Near focus 140 degree or more Direction of view 0 degree, Forward Viewing Distal end outer Diameter 9.2 mm or less Insertion tube outer diameter 9.2 mm or less Channel Diameter 2.8mm or more Depth of Field 2 or 4-100 mm Minimum Visible distance of 3 mm or closer from distal end Range of tip deflection should be equal to or greater than210 degree up or more than 90 degree down or more100 degree rt and left Scope should have Auxillary water jet channel separate from worki nf channel. Standard accessories including biopsy forceps cleaning brush. **<u>Video Processor:</u>** -Should be compatible with Analog, HD-SDI/ DVI output & 16:9&16:10 output for a HDTV monitor should be available. The equipment should be supplied with 24 inch or more HD medical grade Monitor - Should contain the electronics to operate dual focus for clear visibility of near & far objects. - Equipped with high resolution HDTV Imaging capacity. - Compact, light weight (10-11 kg) and ergonomically designed. Should have optical image enhancement technology compatible with the scope. Should have pre freeze function for image stabilization. Should have Xenon short arc ozone free 300 watt light source -Recording of both still & moving images -Portable Memory & USB slot for image recording -Automatic IRIS control & automatic white balance -Picture in Picture display & Index function ability -Electronic Zoom upto 1.5X. - Equipped with memory back up for settings & Lithium battery Should have Moveable trolley to mount the System Should have recording and reporting system compatible with the scope Should be USFDA/European CE Certified The technical bid should be supported with documentary proof and compliance should be given. The price bid has to be separate and optional items if any should be quoted separately. The supplier has to give the latest version of the specifications, if any advancement occurs in the software it has to be installed free of cost, if there is any hardware introduced then it has to be brought to the notice of the tenderer who reserve the right to buy it or not. The institute will provide space for the installation of the equipment and if any modification /alteration or preparation of the site is required it will be done by the company	**01**

		Equipment should have 5 years warranty with 5 years AMC/CMC quoted for the standard equipment ads supporting accessories.	
11	**Temporary Pacemaker with Accessories**	1. Should be bipolar sensing & pacing. 2. Single chamber pacing with adjustments of sensitivity, output and rate. 3. Should have indicator for battery depletion, inbuilt backup during battery changes. 4. Should carry five year warranty on machine and spares. 5. Should have USFDA approval. **6.** Should have facility for overdrive pacing.	**04**
12	**Infusion Syringe Pump**	1. Should be easy to use and nurse friendly. 2. Should have automatic syringe size and model detection 3. Should have large format LCD/TFT display. 4. Should have a minimum flow rate range from 0.1 – 1200 ml/hr for 50ml syringe, 0.1 – 100 ml/hr for 20ml syringe and 0.1 – 60 ml/hr for 10ml syringe. 5. Syringe range from 5ml to 50/60 ml. 6. Should have a flow rate accuracy of ±2% 7. Should have a bolus rate up to 0.1 to 1000ml or more/hr for 50 ml syringe. 8. Should have automatic and manual bolus. 9. Should have at least 3 levels of programmable occlusion pressure. 10. Should have automatic bolus reduction system to avoid accidental bolus delivery after occlusion incident. 11. Should have a rechargeable battery with back up time of minimum 8 hour or more hours. 12. Pump must trigger following alarms with visual indication:- ▪ Occlusion Pressure Alarm ▪ KVO or 3 min pre- alarm ▪ Syringe empty and volume infused alarm ▪ Internal malfunction and Battery Charge Low Alarm ▪ Syringe disengaged and incorrectly placed alarm ▪ Alarm loudness control. ▪ No mains ▪ Line disconnected (rapid pressure drop). 13. Should work with input 200 to 240Vac 50 Hz supply. 14. Should have US FDA/ European CE certification. 15 the equipment should be water proof ,weight should be 1.7 kg or less and should be able to change flow rate without stopping infusion16. Should have USB port (mini) for data transfer and have option of wi-fi connectivity. 16.Equipment should have 5 years warranty with 5 years AMC/CMC quoted	**20**
13	**MULTI CHANNEL MONITOR**	1. POWER- Electrical power with JOO-240V, 50/60Hz, 2.3A(maximum). 2. Monitoring parameters are a. ECG b. SPO2 c. NIBP d. Respiration e. Temperature:skin and nasal. f. Invasive Pressure for both Arterial and Venous pressure monitoring. 3. It should display at least 7 or more wave forms channel of selected parameter simultaneously. 4. It should have inbuilt continuous battery back up through lithium-ion battery of minimum of one to two hours: upgradable to additional 1 hour. 5. DISPLAY- color TFT touch display size of 15” or more. It should be operable through full touch screen. 6. It should have dual temperature monitoring either in Celsius or Fahrenheit.	**25**

		7. Should have facility for displaying multi screen configurations 8. It should be able to store and display at least a week of tubular and graphical trends of all parameters. Should also have full disclosure of wave forms for minimum of 24 hrs. 9. It should be suitable for monitoring adult, pediatric patients and neonate patients. 10. It should have different patient type selection. 11. The respiratory rate should be calculated through Impedance method. 12. It should be able to analyze arrhythmias and ST segment changes. Monitor should be upgradable to monitor 12 lead ECG with ST segment representation in early readable graphical form. 13. It should be able to give visual and audible alarms with three levels of volume adjustment. 14. It should have option of connectivity to central nursing station through Ethernet card or WIRELESS connectivity. 15. Monitor should be compatible with HL7. 16. Monitor should have USB port for data storage. 17. It should be US FDA certified. 18. It should have at least 5 years of comprehensive warranty (Including all Spares, Accessories and Labor) from the date of completion of the satisfactory installation. 19. Monitor should be provided with wall mount for holding monitor and should be able rotate the monitor. 20. Monitor should be provided with a. Compatible 5 lead ECG cable – 3 b. SPO2 probe for Adult –5 c. SPO2 probe Paediatric –2 d. SpO2 extension cable: 5 e. NIBP cuff with extension cable of large adult-5, f. NIBP cuff for pediatric – 1 No g. Large cuff for obese patient: 2 h. Temperature probe. 2 set each i. IBP cable: 5 j. Disposable transducers-20 21. SpO2 (Pulse Oxymeter) should be Masimo/Nellcore, with ability to measure PVI, and perfusion index(PI) **3) Monitoring stations** with complete laying down of cable for connecting the peripherals and central station. **a.** Simultaneous monitoring and display of 10 beds- at least ECG, invasive blood pressure, SpO2 and heart rate should be Visible for each patient/ bedside monitor. **b.** Ability to zoom all parameters from one bedside unit while data of other bedside units is displayed simultaneously. **c.** Store and review trends for at least 72 hours. **d .** Facility to enter data from the central station. **e.** Display: - High resolution colour TFT screen of 26”or more in size. **f.** Ability to adjust individual beside unit alarms from the central station	
14	**Ambulatory Blood Pressure Monitor**	• Backlit graphical color display with multi-language menu • Unit should be capable of measuring blood pressure by Auscultatory and Oscillometric method. • Recording over 48 hours • Easy menu guidance with two control buttons	**1**

		• Voice recording of patient data • Examination of adults and children • Programming and storage up to four individual measurement programs • Facility for the patient to take additional measurements at any time • Should have facility to choose whether readings should be displayed during measurements or not. To avoid patients from influencing measurements • Recording and storage of up to 400 measurements • Recorder should state when calibration of equipment is required • USB interface for data transmission to a PC • Unit should have provision for micro SD card for data storage • Software should have facility for comprehensive statistical calculations based on the measurements with various numerical and graphical presentations • Light weight-200 gms (Including battery/compact) • The unit should have been designed with IP42 IEC Standard to avoid damages from solid objects & liquid spillage • Unit should be US FDA certified • Certificate of US FDA (510 K) should be submitted along with tender documents else tender will be out rightly rejected. DATA Storage for Holter Recorder (Optional) 1GB RAM (DDR2) 320 GB Hard Disk (SATA) DVD Writer Combo 17'' TFT Monitor Speakers Multimedia keyboard Cabinet having USB CONNECTORS Printer : LaserJet UPS for computer Suitable Trolley for Mounting	

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